

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☒

2. NAME OF OPERATOR

Wintershall Corporation

(303) 694-0988

3. ADDRESS OF OPERATOR

5251 DTC Pkwy., Ste. 500, Englewood, Co. 80111

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

460' FSL & 1880' FEL (SWSE)

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

12 air miles SE of Blanding, Utah

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drig. unit line, if any)

460'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

1,030'

19. PROPOSED DEPTH

6,031'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5,129' ungraded

22. APPROX. DATE WORK WILL START\*

Upon Approval

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT

RECEIVED  
NOV 17 1986

DIVISION OF  
OIL, GAS & MINING

1. BOP, casing, and cementing programs are on PAGES 2-4.
2. Well is located on federal surface and subsurface.
3. Well is an orthodox location.

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE 11-24-86  
BY: John P. Bay  
WELL SPACING: 302

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

Brian Wood

TITLE

Consultant

DATE

11-13-86

(This space for Federal or State office use)

PERMIT NO.

43-037-31288

APPROVAL DATE

APPROVED BY

TITLE

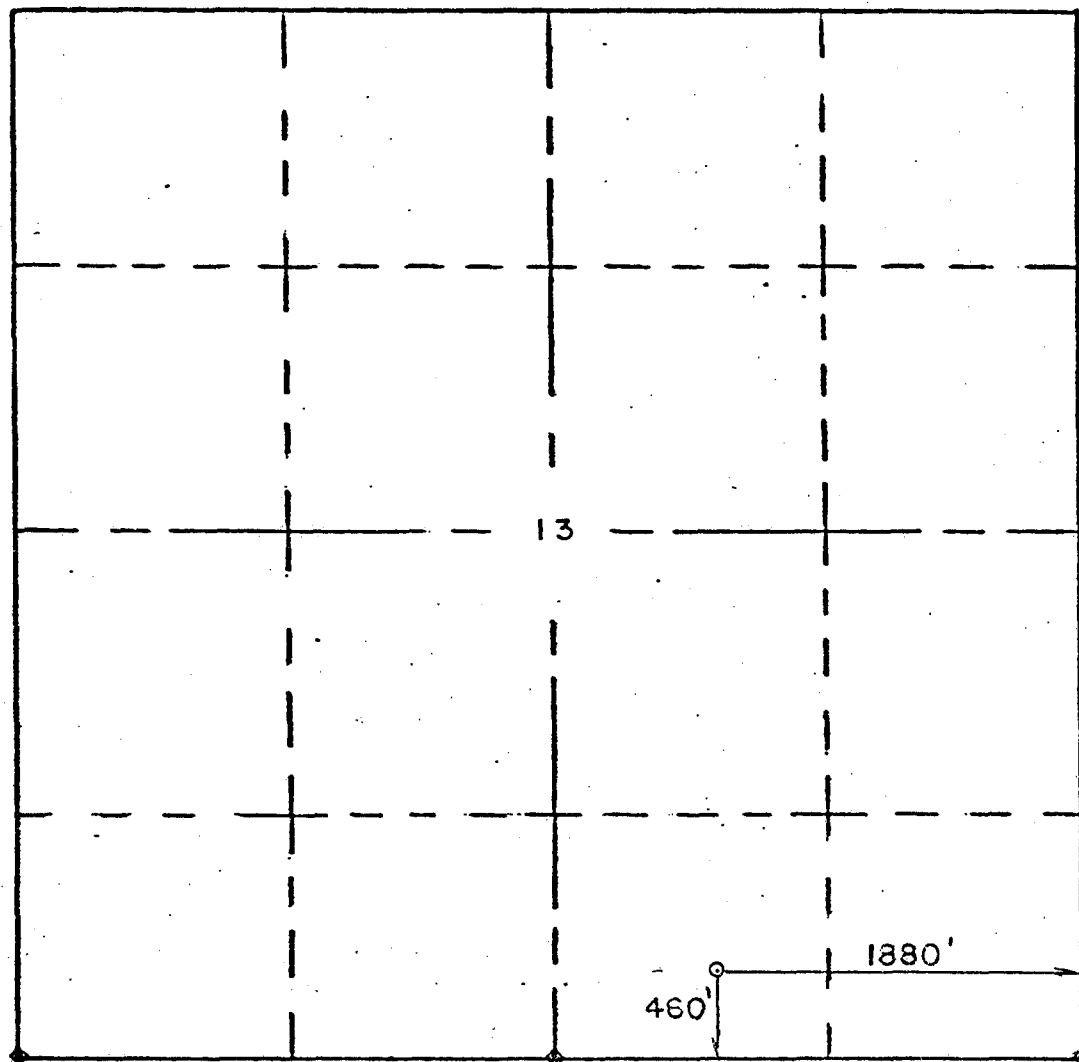
DATE

CONDITIONS OF APPROVAL, IF ANY:

cc: Howell (3), Lowry (3), MDO (3), SJRA (2), UD00M (2)

\*See Instructions On Reverse Side

WELL LOCATION PLAT

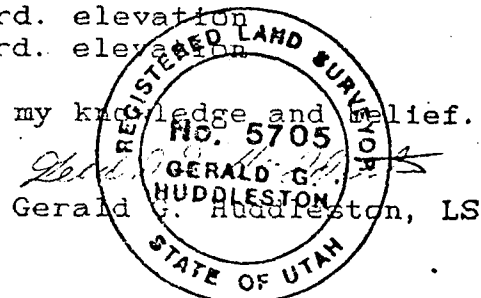


WELL LOCATION DESCRIPTION:

WINTERSHALL OIL & GAS  
Horse Canyon #13-34  
460' FSL & 1880' FEL  
Section 13, T.38 S., R.23 E., SLM.  
San Juan County, Utah  
5129' grd. elevation  
References: 200' West, 5110' grd. elevation  
200' East, 5122' grd. elevation

The above plat is true and correct to my knowledge and belief.

11-10-'86





BASF Group

November 5, 1986

Bureau of Land Management  
Branch of Fluids  
P.O. Box 970  
Moab, Utah 84532

Dear Sirs,

Brain Wood with Permits West, Inc. is employed by Wintershall Corporation and as such has the authority to sign APD's as agent for Wintershall Corporation.

Sincerely,

A handwritten signature in cursive script that reads "David P. Howell".

David P. Howell  
Operations Manager  
Rocky Mountain Division

DPH/cjr  
Enclosure

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 1

All lease operations will be conducted in full compliance with applicable laws, regulations (43 CFR 3100), Onshore Oil & Gas Order #1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. Wintershall will furnish a copy of these conditions to its field representative to assure compliance.

### 8 Point Drilling Program

1. The estimated tops of important geologic markers are:

<u>Formation Name</u>	<u>Depth</u>	<u>Subsea</u>
Morrison	000'	+5129' (ungraded)
Bluff	511'	+4618'
Entrada	763'	+4366'
Navajo	941'	+4188'
Chinle	1861'	+3268'
DeChelly Cutler	2581'	+2548'
Hermosa	4479'	+ 650'
Upper Ismay	5705'	- 576'
Lower Ismay	5823'	- 694'
Desert Creek	5923'	- 794'
Akah (TD)	6031'	- 902'

2. The estimated depths at which water, oil, gas, or other mineral bearing zones are expected to be encountered are:

Possible Water Zone

Navajo: 941'

Possible Oil Zones

Upper Ismay: 5705'

Lower Ismay: 5823'

Desert Creek: 5923'

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 2

Surface casing will be set 50' into the Chinle. Water bearing zones will be protected with weighted mud. All fresh water encountered during drilling will be recorded by depth, cased, and cemented. All oil and gas shows will be tested to determine commercial potential.

3. BOP systems will be consistent with API RP 53. A diagram of a typical 3000 psi BOP (actual model will not be known until bid is let) is on Page 3.

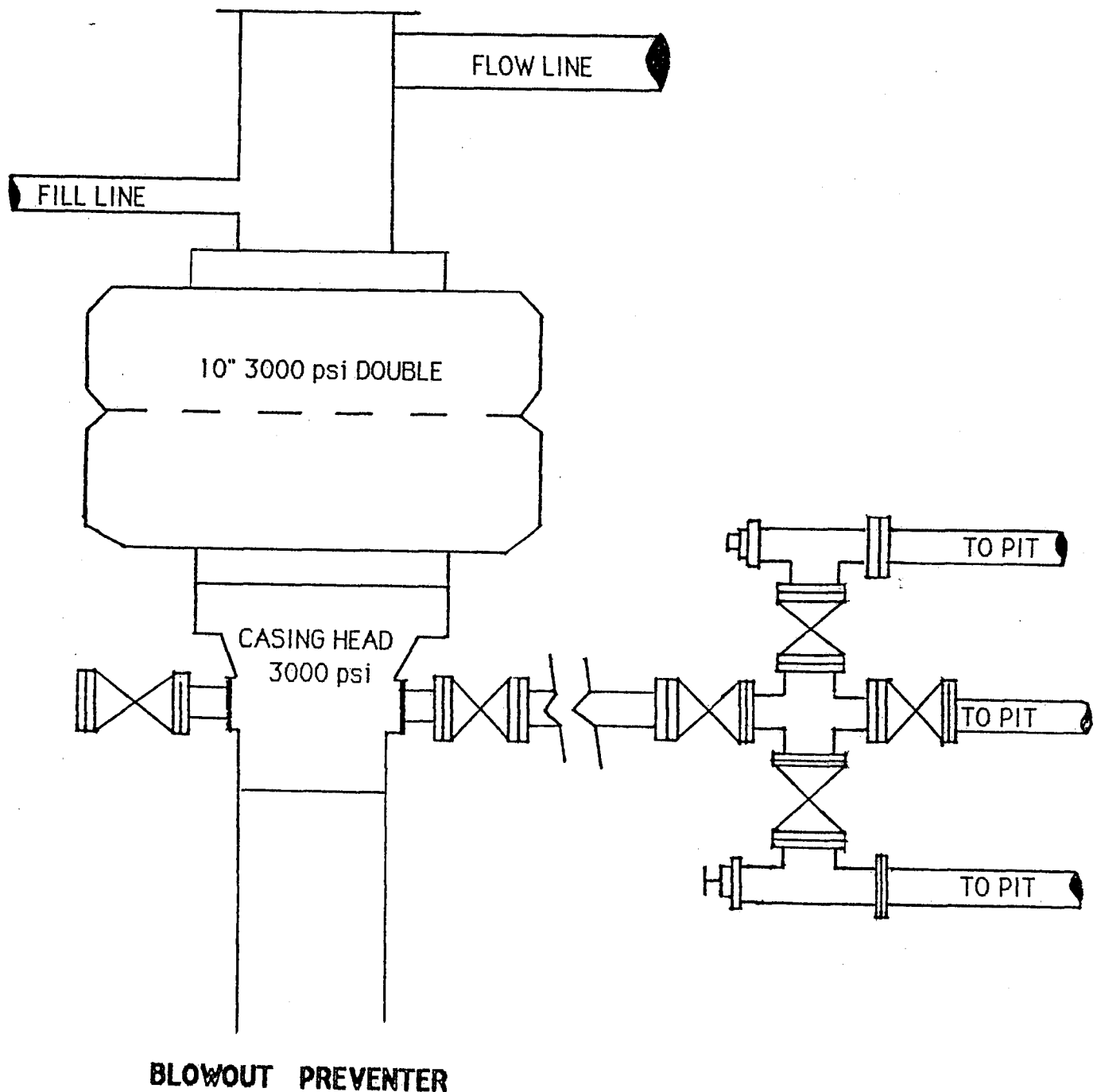
Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. BOP controls will be installed before drilling the surface casing plug, and will stay in use until the well is completed or abandoned. Preventers will be pressure tested before drilling casing cement plugs. All BOP mechanical and pressure tests will be recorded on the drillers log. Call Mike Wade at the Resource Area (801) 587-2141 or home (801) 587-2026 one day before pressure testing. If Mike is gone, call Greg Noble at the District Office (801) 259-6111 or home (801) 259-8811.

BOPs will be inspected and operated at least daily to assure good mechanical working order. This inspection will be recorded on the daily drilling report.

4. The following may be inspected. Call Mike Wade at the Resource Area (801) 587-2141 or home (801) 587-2026 one day before the event, or on a dry hole as soon as possible. If unable to reach Mike Wade, call Greg Noble at the District Office (801) 259-6111 or home (801) 259-8811.
- The cementing and testing of surface casing.
  - If a dry hole, setting and testing of surface casing shoe plug.
  - If a depleted producer, setting and testing of plugs across the producing horizon and, if applicable, the surface casing shoe plug and/or annulus (casing to formation) squeeze jobs.

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 3



Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 4

The San Juan Resource Area [(801) 587-2141] will be notified 1 day before running casing strings and cement. The proposed casing and cementing program is:

<u>Hole Size</u>	<u>O.D.</u>	<u>Weight</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>Setting Depth</u>
17-1/2"	13-3/8"	54*	J-55	ST&C	New	0' - 80'
12-1/4"	9-5/8"	36*	J-55	ST&C	New	0'-2145'
7-7/8"	5-1/2"	15.5*	J-55	ST&C	New	0'-6031' (TD)

Conductor Pipe: Cement to surface (0' to 80') with 125 sx

Surface Casing: Cement to surface (0' to 1911') with:

Lead System

1,000 sx "Lite"

Tail System

100 sx Class B

Production Casing: Cement to surface (0' to 6031') with:

150 sx low water loss Class B

5. The proposed mud program is:

<u>Depth</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>F/L</u>	<u>pH</u>
0'-3500'	Gel-Water	8.7-8.8	30	N/C	N/C
3500'-5000'	Gel w/ Chem	9.0-9.5	40	12-15	10
5000'-6031' (TD)	Gel w/ Chem	9.5-10.5	40-45	8-10	10+

6. Drill stem tests will be run in the Upper and Lower Ismay, our primary objectives, if good shows are found. No cores are anticipated. The following logs will be run:

DIL/SFL, Gamma Ray/SP, BHC/Sonic: Base of Surface Casing to TD

Density Neutron & Dipmeter: Zones of Interest from 4500' to TD

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 5

Whether the well is completed as a dry hole or producer, "Well Completion or Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well, or after completion of operations being performed, *per* 43 CFR 3164. Two copies of all logs, core descriptions & analyses, well test data, geologic summaries, sample descriptions, and all other data obtained during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. (If requested, sample cuttings, fluids, and/or gases will be submitted to the District Manager.)

7. The maximum expected bottom hole pressure is 3500 psi.  
No abnormal pressures, temperatures, or hydrogen sulfide are expected.
8. The anticipated spud date is November 19, 1986. It is expected it will take 20 days to drill the well and 10 days to complete the well.

Wintershall, or its dirt contractor, will contact the Resource Area before beginning dirt work.

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Manager. If operations are to be suspended, prior approval of the District Manager will be obtained and notification given before resumption of operations.

The spud date will be phoned to the Resource Area, a minimum of 24 hours before spudding. A Sundry Notice (Form 3160-5), reporting the spud date and time, will be sent to the District Manager within 24 hours after spudding. If the spud is on a weekend or holiday, the Sundry will be sent on the following regular work day.



Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 6

Starting with the month in which operations begin, and continuing each month until the well is physically plugged and abandoned, a "Monthly Report of Operations" (Form 3160-6) will be sent to the District Manager.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual events will be promptly reported to the Resource Area *per* NTL-3A.

A Sundry Notice will be filed for prior approval of the District Manager if a replacement rig is planned for completion. All conditions of this approved plan apply to all operations of the replacement rig. In emergencies, verbal approval can be given by the District Manager.

If the well is successfully completed for production, then the District Manager will be notified. Written notification will be sent not later than 5 business days following the date on which the well is placed on production. The Resource Area will schedule a first production conference within 15 days after receipt of the first production notice.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Manager. This preliminary approval will not exceed 30 days or 50 MMcf of gas. Approval to vent/flare beyond this initial period will require the District Manager's approval *per* NTL-4A.

No well abandonment operations will begin without the prior approval of the District Manager. With a newly drilled dry hole, failure, or emergency, oral approval will be obtained from the District Manager. A Sundry Notice will be sent to the District Manager within 30 days following completion of the well for abandonment. The Sundry will note where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the reclamation required by the approved APD or abandonment notice has been completed to the satisfaction of the Area Manager.

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 7

Once plugged, a regulation dry hole marker will be erected. The following information will be beaded on with a welding torch: Wintershall Corp., Horse Canyon 13-34 Federal, SWSE 13-38S-23E, U-20894.

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 8

### 13 Point Surface Use Plan

#### 1. EXISTING ROADS (See PAGES 17 & 18)

From the Post Office in Montezuma Creek, Utah, go north 14.1 mi. on Utah 262.

Then turn right and go east 6.8 mi. on a paved county road (*aka*, \*N-5099) to Hatch's Trading Post.

Then turn left and go north and west 13.6 mi. on a county road (\*246) which starts out paved, turns to gravel, and ends as dirt (\*206).

Then turn left and go south 3.3 mi. on what is first a gravel road, but soon becomes a dirt county road.

"Then turn right and go northwest 1.5 mi. on a Meridian Oil lease road."\*

"Then bear left and go west on a Meridian Oil lease road 0.1 mi. New access will begin immediately after crossing Alkali Wash."

Existing access is successively state, county, and Meridian lease roads. (Wintershall is applying for a right-of-way for the latter.) The roads will be maintained to a standard at least equal to their present condition - this includes maintaining that portion of Meridian's lease roads which Wintershall will use during drilling. Should production result, Wintershall is willing to enter into a cooperative agreement with Meridian for the maintenance of common roads.

No improvements or new disturbances are planned. An Encroachment Permit has been submitted to the San Juan County Road Dept.

\* Wintershall is applying for a right-of-way for those road portions in quotation marks.

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 9

## 2. ROADS TO BE BUILT OR UPGRADED (See PAGE 18)

From the west side of Alkali Wash, a new road 0.3 mi. in length will go northwest to the well. "The first 0.1 mi. is off-lease." The final 0.2 mi. is on-lease. The new road will both be flat bladed with a 20' wide running surface (30' maximum disturbed width). Two 24" and two 18" culverts will be installed. There will be no turnouts, fence crossings, or major cuts or fills. Maximum grade will be 9%.

Surface disturbance and vehicle travel will be limited to the approved location and access. Any additional area needed will be approved in advance by the Area Manager. If access is used during wet winter weather, road surfacing may be required.

The access road will be water barred or brought to Class III Road Standards within 60 days of dismantling the drill rig. If this deadline cannot be met, the Resource Area will be notified so temporary drainage control can be installed. Class III Road Standards control drainage through the use of topography, ditch turnouts, dips, outsloping, crowning, low water crossings, and culverts. Specific measures will be determined at a field inspection.

\* Wintershall is applying for a right-of-way for those road portions in quotation marks.

## 3. EXISTING WELLS (See PAGE 18)

There are no existing water, injection, or disposal wells within one mile. Meridian Oil has the only two producers within a mile. Its Havasu Federal 41-24 (1050' FNL & 500' FEL 24-38S-23E) is 2046' away. The Havasu Federal 22-19 (1850' FNL & 1255' FWL 19-38S-24E) is 3894' away.

In addition, Wintershall has applied to drill three other wells in

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 10

13-38S-23E. Horse Canyon 13-14 Federal (460' FSL & 500' FWL) is 2900' away, Horse Canyon 13-24 Federal (575' FSL & 1760' FWL) is 1644' away, and the Horse Canyon 13-44 (470' FSL & 850' FEL ) is 1030' away.

#### 4. PROPOSED PRODUCTION FACILITIES

The type and layout of the production facilities are not known now. A Sundry Notice will be submitted for approval before they are installed.

All permanent (on site for 6 or more months) surface facilities will be painted a flat, nonreflective, neutral color to match the trees or soil. Painting will be completed within 6 months of installation. Parts required to comply with OSHA colors will be excluded.

If a tank battery is built, it will be surrounded by a dike of sufficient capacity to contain 150% of the storage capacity of the battery. All loading lines will be placed inside the dike.

All site security guidelines in 43 CFR 3162.7 will be obeyed. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease must have prior written approval from the District Manager.

Any gas meter run will be within 500' of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500' downstream of the meter run and any production facilities. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well pad. Meters will be calibrated in place before delivery begins. Meter accuracy

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 11

tests will be conducted monthly for the first 3 months on new meters, and at least quarterly thereafter. The Resource Area will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be sent to the Resource Area. All meters will conform with the API standards for liquid hydrocarbons and AGA standards for natural gas measurement.

5. WATER SUPPLY (See PAGE 17)

Water will be trucked from an artesian well on BLM administered land in NENW Sec. 27, T. 40 S., R. 23 E. BLM has given Hay Hot Oil, Inc. permission to truck water from this well. An Application to Appropriate Water (09-1419 [A60809]) has been approved by the State of Utah Div. of Water Rights.

6. CONSTRUCTION MATERIALS

Pad construction materials are native *in situ* soils on lease. The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

7. WASTE DISPOSAL

The reserve pit will be unlined. More than half of the capacity will be in cut. It will be fenced on 3 sides with woven wire topped with barbed wire. The 4th side will be fenced once the rig moves off. The fence will be kept in good repair while the pit is drying.

All trash will be placed in a portable trash cage. When full, it will be hauled to an approved landfill in Colorado. The road and pad will be kept litter free.

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 12

Human waste will be disposed of in 20' deep ratholes or chemical toilets. The ratholes will be immediately filled when the trailers are removed.

Produced water will be confined to an unlined pit for a period not to exceed 90 days after initial production. During the 90 day period an NTL-2B application will be submitted for the District Manager's approval of a permanent disposal method and site.

#### 8. ANCILLARY FACILITIES

There will be no formal camp, though two camper trailers may on site for the company man and tool pusher.

#### 9. WELL SITE LAYOUT

See PAGES 19-21 for depictions of the well pad, cross sections, cut and fill diagrams, reserve pit, burn pit, access road onto the pad, parking, living facilities, soil stockpile, and rig orientation.

The top 12" of soil material will be removed from the level area and stockpiled on the southeast side. Topsoil along the access will be reserved in place.

#### 10. RECLAMATION

Immediately upon completion of drilling, all trash and debris will be collected from the pad and surrounding area and placed in the trash cage.

Wintershall's dirt contractor will call the Resource Area 48 hours before starting reclamation that involves earth moving equipment, and upon

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 13

completion of reclamation. The reserve pit must be completely dry before it is backfilled.

All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts.

The stockpiled topsoil will be spread evenly over the disturbed area. All disturbed areas will be ripped 12" deep with the contour.

Seed will be broadcast between October 1 and February 28 with the following prescription. A harrow or similar implement will be dragged over the area to assure seed cover.

*3 lb/ac Crested wheatgrass (Agropyron desertorum)*  
*3 lb/ac Fourwing saltbush (Atriplex canescens)*  
*3 lb/ac Galleta (Hilaria jamesii)*

After seeding is complete, the stockpiled trees will be scattered evenly over the disturbed area. The access will be blocked to prevent vehicle access and water bars built as follows:

<u>Grade</u>	<u>Spacing</u>
2%	Every 200'
2-4%	Every 100'
4-5%	Every 75'
5%+	Every 50'

The reserve pit and that part of the pad not needed for production will be reclaimed as previously described. Enough topsoil will be kept to reclaim the remainder of the pad at a future date. The remaining topsoil stockpile will be seeded in place using the prescribed seed mix.



Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 14

11. SURFACE OWNER

The surface owner of the pad and the road requiring construction is the U.S. Government.

12. OTHER INFORMATION

The dirt contractor will be provided with an approved copy of the surface use plan. The dirt contractor will fence the east side of the pad to avoid inadvertent damage to a cultural resource.

There will be no change from the proposed drilling and/or workover plan without prior approval from the District Manager. A Sundry Notice will be filed for approval for all changes of plans and other operations *per* 43 CFR 3164.

Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified *per* 43 CFR 3162.2.

If subsurface cultural materials are exposed during construction, work in that spot will stop immediately and the Resource Area will be called. All people who are in the area will be informed by Wintershall that they are subject to prosecution for disturbing archaeological sites or picking up artifacts, including arrowheads.

This permit will be valid for one year from the date of approval. After the permit expires, a new application will be filed for approval of any future operations.

The District Office's mailing address is P.O. Box 970, Moab, Utah 84532. The phone number is (801) 259-6111. Ask for Greg Noble.

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 15

The Resource Area's mailing address is P.O. Box 7, Monticello, Utah 84535. The phone number is (801) 587-2141. Ask for Rich McClure for surface problems. Ask for Mike Wade for subsurface problems.

The nearest hospital is a 60 minute drive to Monticello, Utah. It is 3 blocks northwest of the intersection of US 666 and US 191. Phone number is (801) 587-2116. The nearest medically equipped helicopter is in Grand Junction, Colorado, at St. Mary's Hospital. Call (303) 244-2550.

### 13. REPRESENTATION AND CERTIFICATION

For questions concerning the APD, please contact:

Brian Wood  
Permits West, Inc.  
37 Verano Loop  
Santa Fe, NM 87505  
(505) 984-8120

The field representatives for Wintershall Corporation will be:

Fred Clawson, Area Supt.  
Wintershall Corporation  
P.O. Box 23  
Towaoc, Co. 81334  
(303) 565-7773

Ralph Sloane, Jr.  
Consultant  
797 Road 3000  
Aztec, NM 87410  
(505) 327-9171

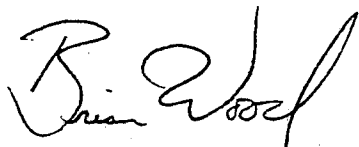
### CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Wintershall Corporation and its

Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 16

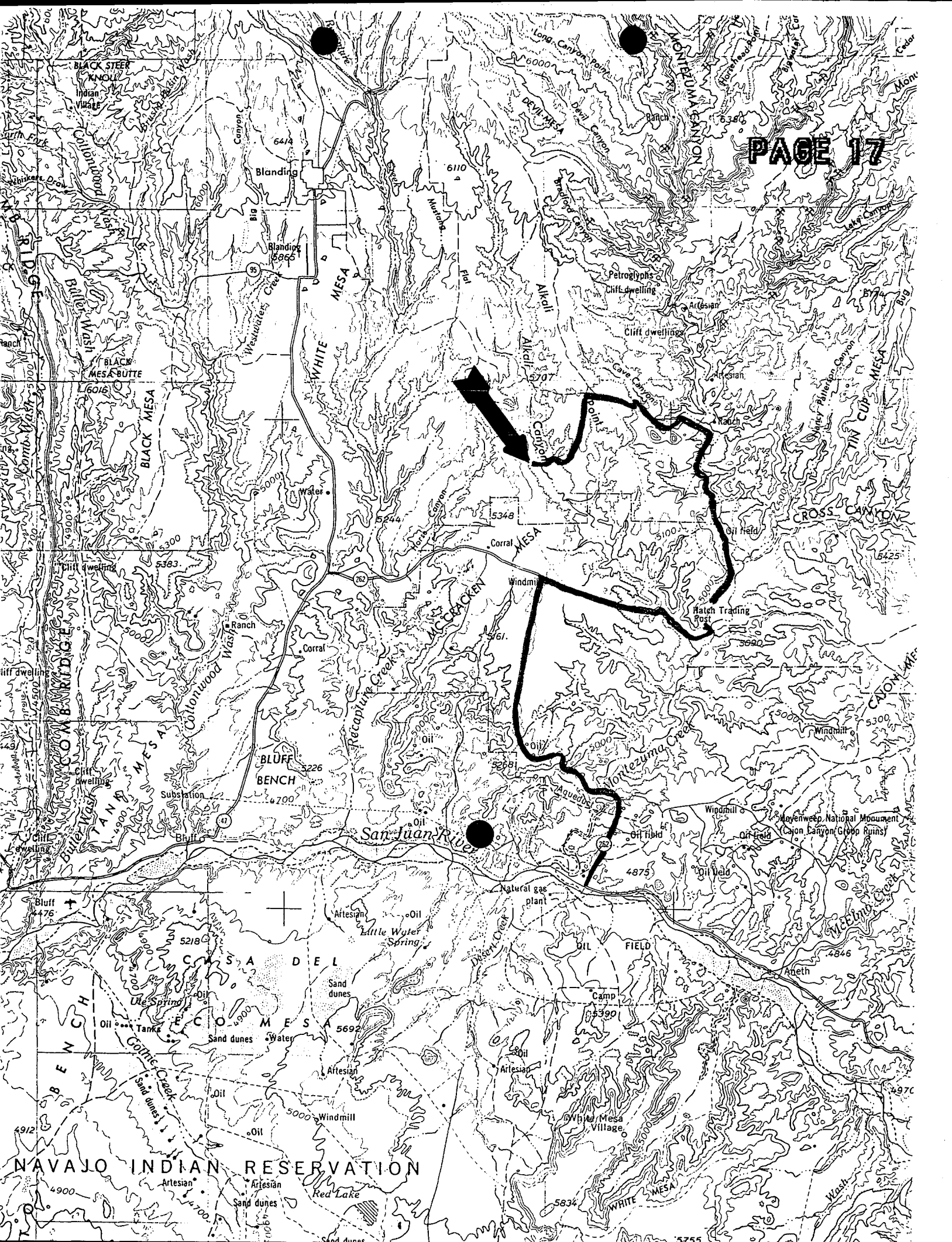
contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.



---

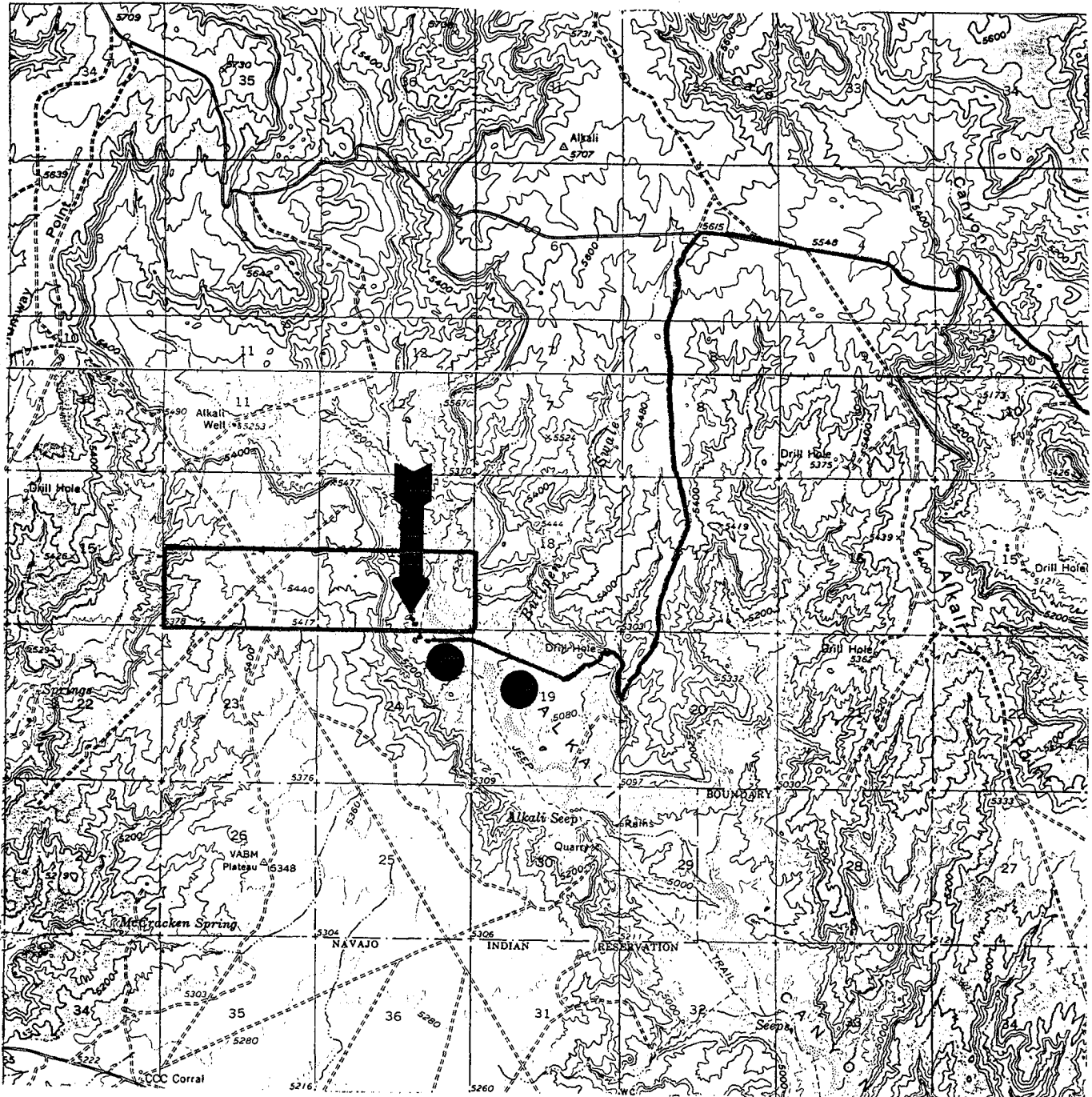
Brian Wood  
Consultant for Wintershall Corporation

November 13, 1986



Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

PAGE 18



EXISTING ROAD:



LEASE U-20894:



NEW ROAD:

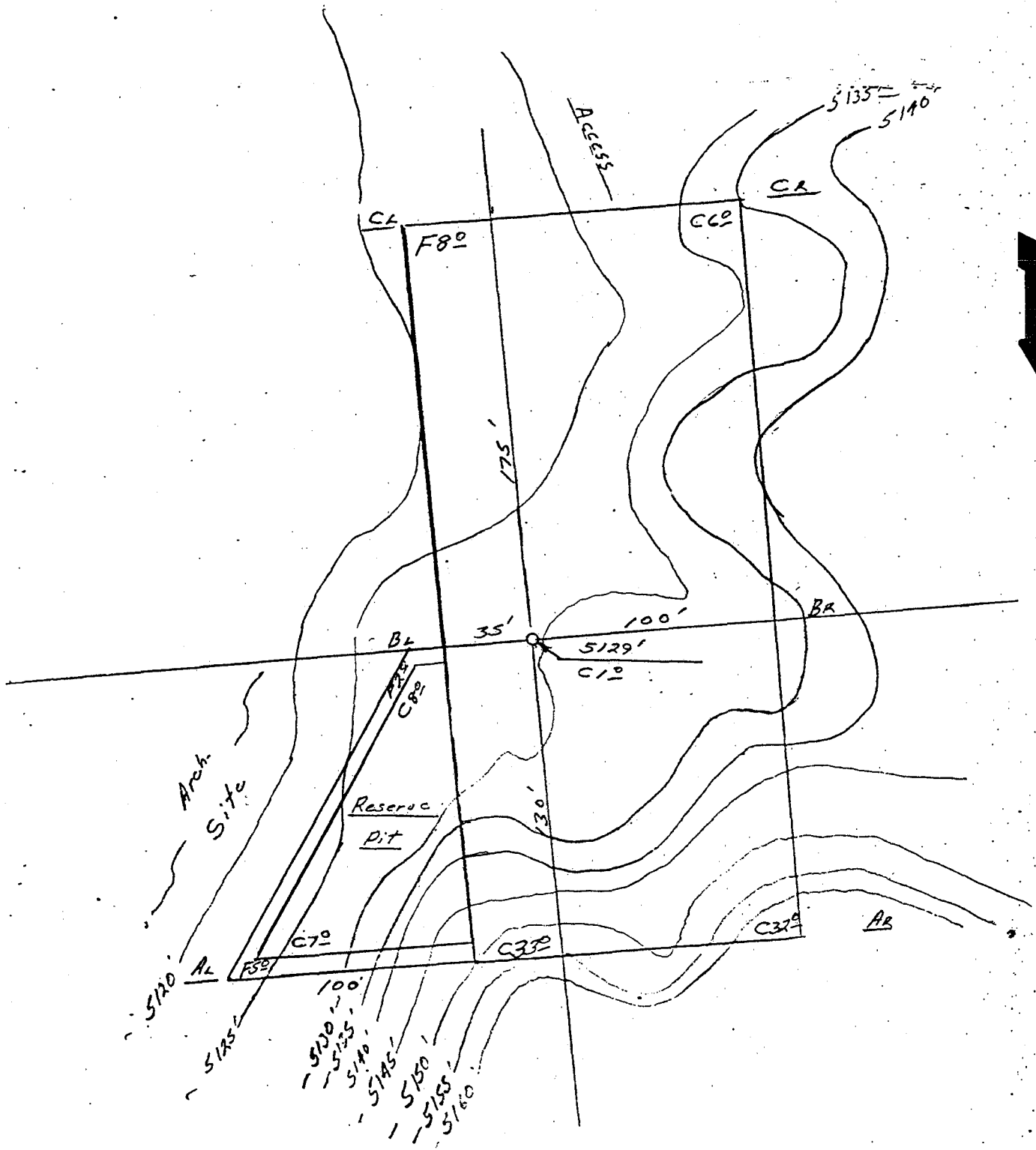


HORSE CANYON 13-34:

EXISTING OIL WELLS:

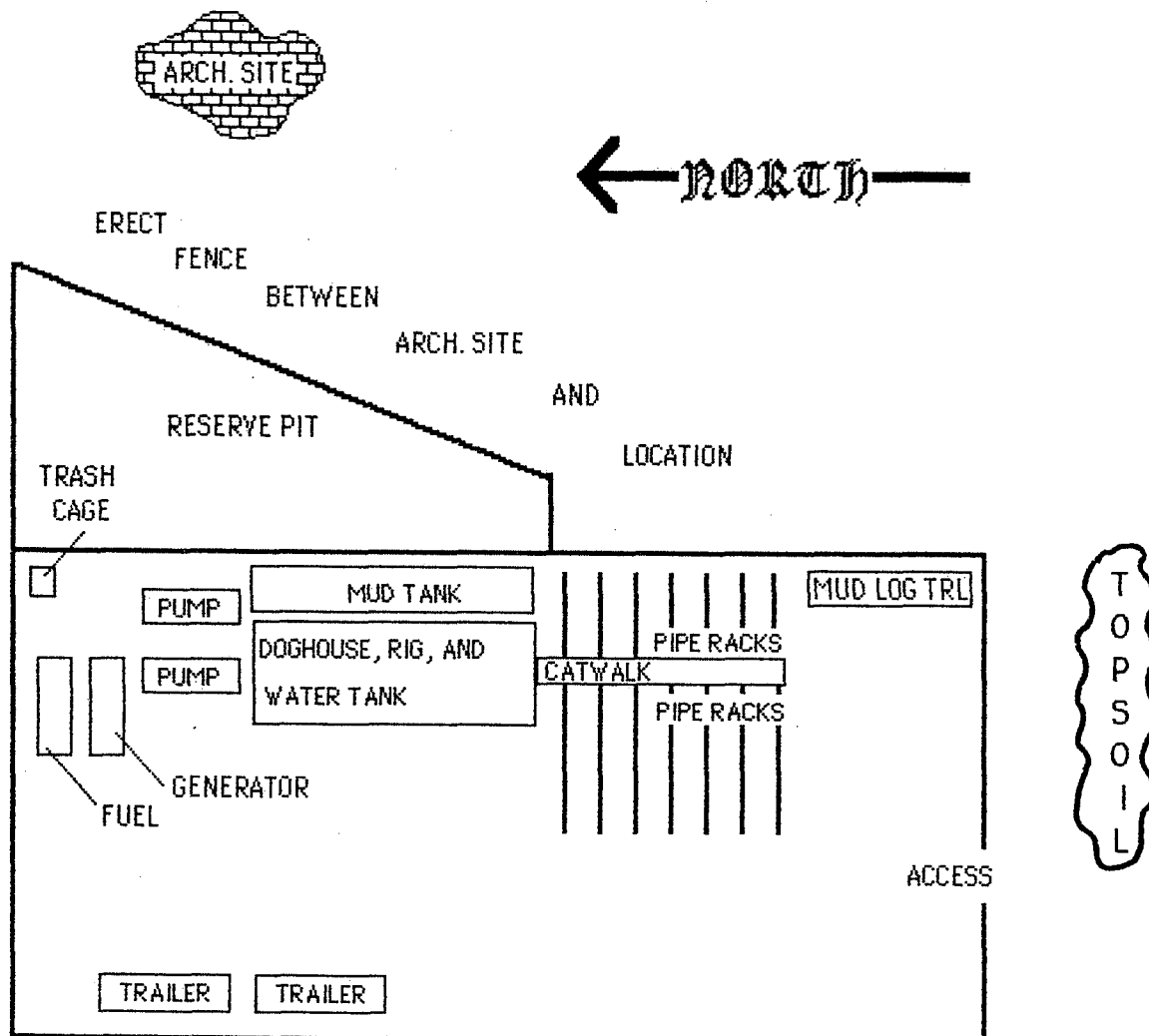


**PERMITS WEST, INC.**  
PROVIDING PERMITS for the ENERGY INDUSTRY



Wintershall Corporation  
Horse Canyon 13-34 Federal  
460' FSL & 1880' FEL  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah

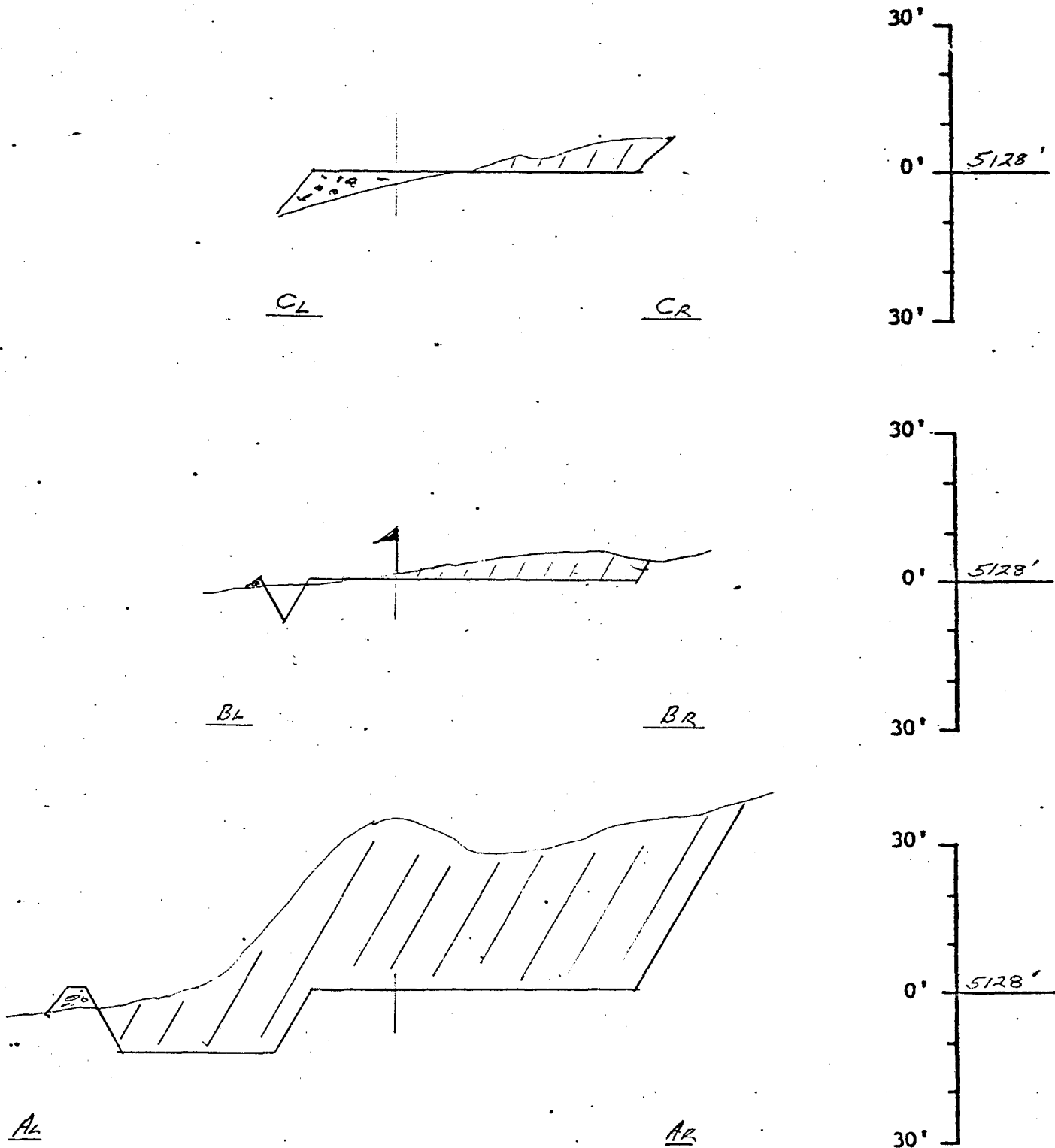
PAGE 20



Cut /////  
Fill . . .

Scales: 1" = 60' H.  
1" = 30' V.

Horse Canyon 13-34





SUPERVISOR, OIL AND GAS OPERATIONS:

## DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of oil and gas lease

DISTRICT LAND OFFICE:

SERIAL No.: U-20894

and hereby designates

NAME: Wintershall Corporation

ADDRESS: 5251 DTC Parkway, Suite 500, Englewood, CO. 80111

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Oil and Gas Operating Regulations with respect to (describe acreage to which this designation is applicable):

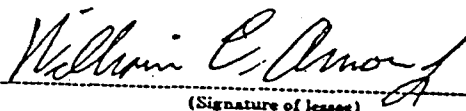
Township 38 South, Range 23 EastSection 13: S $\frac{1}{2}$ Section 14: S $\frac{1}{2}$ 

San Juan County, Utah

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Oil and Gas Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the oil and gas supervisor of any change in the designated operator.



(Signature of lessee)

William C. Armour, Jr.

3422 So. Energy Lane, Casper, Wy. 82604

(Address)

10/28/86

(Date)

(Submit in triplicate to appropriate  
Regional Oil and Gas or Mining Supervisor)

## DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE:

SERIAL No.: UTAH 20894

and hereby designates

WINTERSHALL CORPORATION  
NAME: 5251 DTC Parkway, Ste 500  
ADDRESS: Englewood, CO 80111

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

Township 38 South, Range 23 East  
Section 13: S $\frac{1}{2}$   
Section 14: S $\frac{1}{2}$

San Juan County, Utah

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the supervisor of any change in the designated operator.

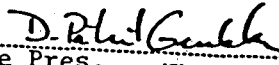
ATTEST:

CHORNEY OIL COMPANY

  
Asst. Sec.

October 28, 1986

(Date)

  
Vice Pres.

(Signature of lessee)

555 17th Street, Ste 1000  
Denver, CO 80202-3910

(Address)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

STATE OFFICE: Salt Lake City, Utah  
SERIAL NO.: U-20894

and hereby designates

NAME: Wintershall Corporation  
ADDRESS: 5251 DTC Parkway, Suite 500  
Englewood, Colorado 80111

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the authorized officer may serve written or oral instructions in securing compliance with the Operating Regulations (43 CFR 3160) with respect to (describe acreage to which this designation is applicable):

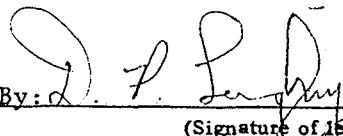
Township 38 South, Range 23 East, S.L.M.  
Section 13: SE $\frac{1}{4}$

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the authorized officer of any change in the designated operator.

TEXACO PRODUCING INC.

By:   
(Signature of lessee)

D.P. Loughry  
Attorney-in-Fact

P.O. Box 2100, Denver, Colorado 80201  
(Address)

November 5, 1986  
(Date)

112503

OPERATOR Wintershall Corp. DATE 11-24-86  
 WELL NAME Horse Canyon Fed. 13-34  
 SEC SWSE 13 T 38S R 23E COUNTY San Juan

43-037-31288  
 API NUMBER

Fed  
 TYPE OF LEASE

CHECK OFF:

☒ PLAT

☒ BOND

☒ NEAREST  
WELL

☒ LEASE

☒ FIELD

☒ POTASH OR  
OIL SHALE

PROCESSING COMMENTS:

No other well within 920'  
Water & - 09-1419 (A60809)

APPROVAL LETTER:

SPACING: ☐ 203 \_\_\_\_\_ UNIT

☒ 302

☐ \_\_\_\_\_  
 CAUSE NO. & DATE

☐ 302.1

STIPULATIONS:



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

November 24, 1986

Wintershall Corporation  
5251 DTC Parkway, Suite 500  
Englewood, Colorado 80111

Gentlemen:

Re: Horse Canyon Federal 13-34 - SW SE Sec. 13, T. 38S, R. 23E  
460' FSL, 1880' FEL - San Juan County, Utah

Approval to drill the referenced well is hereby granted in accordance with Rule 302, Oil and Gas Conservation General Rules.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, Oil and Gas Conservation General Rules.
5. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at the drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable State and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 533-6163.

Page 2  
Wintershall Corporation  
Horse Canyon Federal 13-34  
November 24, 1986

6. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31288.

Sincerely,



R. J. Firth  
Associate Director, Oil & Gas

as  
Enclosures  
cc: Branch of Fluid Minerals  
D. R. Nielson  
8159T

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

120104

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☒

2. NAME OF OPERATOR

Wintershall Corporation

(303) 694-0988

3. ADDRESS OF OPERATOR

5251 DTC Pkwy., Ste. 500, Englewood, Co. 80111

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

460' FSL & 1880' FEL (SWSE).

At proposed prod. zone

Same

43.037.31288

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

12 air miles SE of Blanding, Utah

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

460'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

1,030'

19. PROPOSED DEPTH

6,031'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5,129' ungraded

22. APPROX. DATE WORK WILL START\*

Upon Approval

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT

RECEIVED  
NOV 24 1986

DIVISION OF  
OIL, GAS & MINING

1. BOP, casing, and cementing programs are on PAGES 2-4.
2. Well is located on federal surface and subsurface.
3. Well is an orthodox location.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED Brian W. Wolf TITLE Consultant DATE 11-13-86

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY /S/ GENE NODINE

TITLE DISTRICT MANAGER

DATE NOV 20 1986

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED

cc: Howell (3), Lowry (3), HDO (3), SJRA (2), UD00M (2)

FLARING OR VENTING OF  
GAS IS SUBJECT TO NTL 4-A

DATED 1/1/80

\*See Instructions On Reverse Side

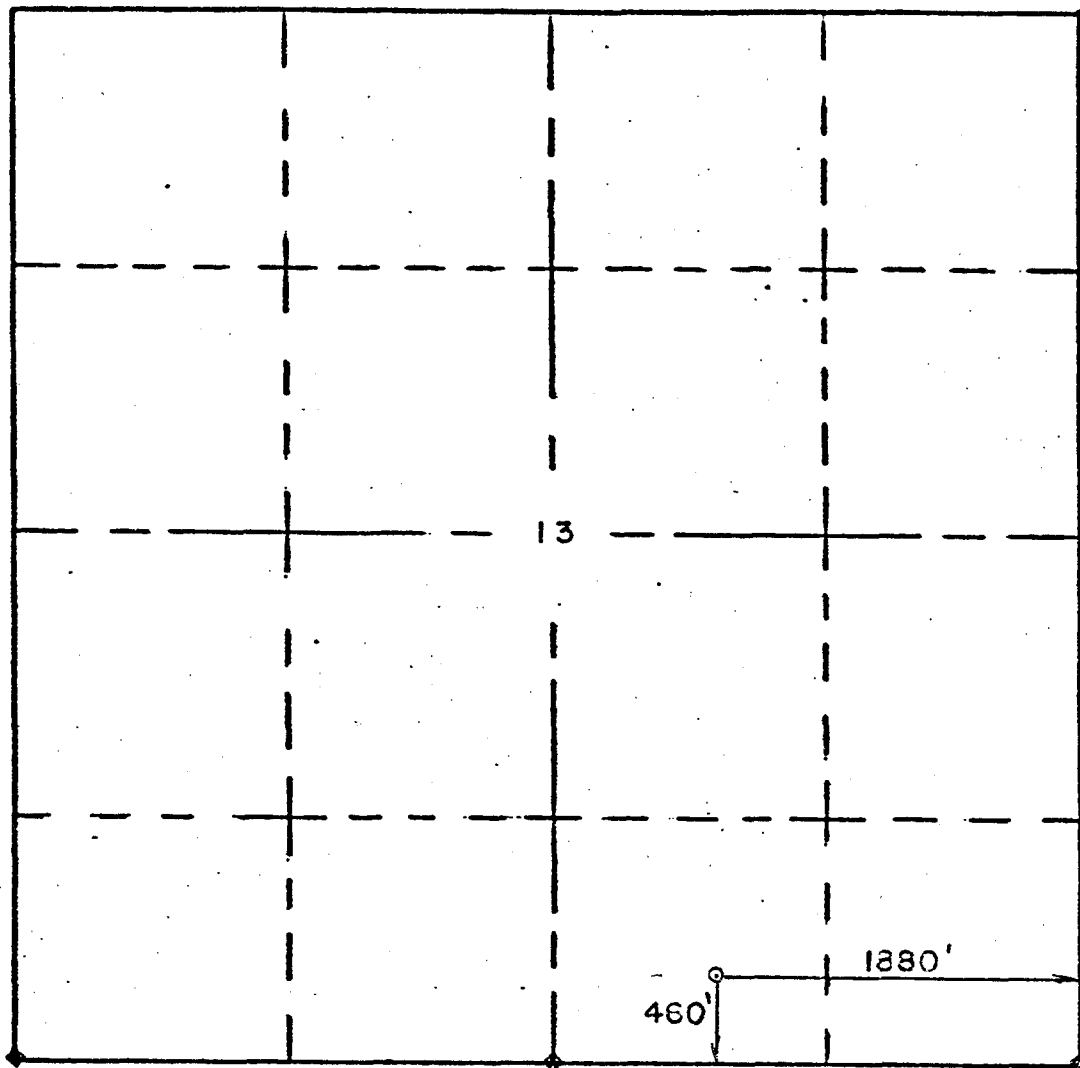
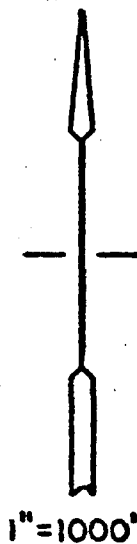
SUBJECT TO RIGHT OF WAY

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVAL

STATE OF UTAH D00M

WELL LOCATION PLAT



WELL LOCATION DESCRIPTION:

WINTERSHALL OIL & GAS

Horse Canyon #13-34

460' FSL & 1880' FEL

Section 13, T.38 S., R.23 E., SLM.

San Juan County, Utah

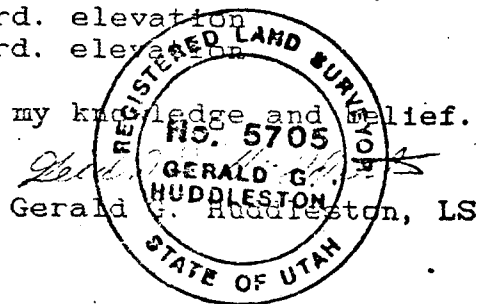
5129' grd. elevation

References: 200' West, 5110' grd. elevation

200' East, 5122' grd. elevation

The above plat is true and correct to my knowledge and belief.

11-10-'86





Wintershall Corporation  
Well No. Horse Canyon 13-34 Federal  
Sec. 13, T. 38 S., R. 23 E.  
San Juan County, Utah  
Lease U-20894

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

A. DRILLING PROGRAM

Drilling will not be permitted after November 28, 1986 unless production has been established elsewhere on the lease.

If this well is drilled first, it must be completed by December 19, 1986.

The lease and APD will expire on December 19, 1986 unless production in paying quantities is established prior to that date.

# FILING FOR WATER IN THE STATE OF UTAH

## APPLICATION TO APPROPRIATE WATER

Rec. by CT  
Fee Paid \$ 15.00  
Platted 21354  
Microfilmed \_\_\_\_\_  
Roll # \_\_\_\_\_

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

WATER USER CLAIM NO. 09 - 1488

APPLICATION NO. T62168

1. PRIORITY OF RIGHT: November 10, 1986

FILING DATE: November 10, 1986

2. OWNER INFORMATION

Name: Wintershall Corporation c/o Permits West Inc.  
Address: 37 Verano Loop, Santa Fe, NM 87505  
The land is not owned by the applicant(s), see explanatory.

3. QUANTITY OF WATER: 8.0 acre feet (Ac. Ft.)

4. SOURCE: Underground water well DRAINAGE: San Juan River

POINT(S) OF DIVERSION:

COUNTY: San Juan

(1) N. 2350 feet, W. 444 feet, from the SE Corner of Section 12,  
Township 38 S, Range 24 E, SLB&M

Description of Diverting Works: 1 inch diameter well.

COMMON DESCRIPTION: 7.5 ml. No. Hatch Trading Post

5. NATURE AND PERIOD OF USE

Oil Exploration From November 15 to November 14.

Road Maintenance From November 15 to November 14.

6. PURPOSE AND EXTENT OF USE

Oil Exploratio: Oil Well Drilling

Road Maintenanc: Compaction and dust control

7. PLACE OF USE

The water is used in all or parts of each of the following legal subdivisions.

TOWN	RANGE	SEC	North East Quarter				North West Quarter				South West Quarter				South East Quarter			
			NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$	NE $\frac{1}{4}$	NW $\frac{1}{4}$	SW $\frac{1}{4}$	SE $\frac{1}{4}$
38 S	23 E	13															X	X

All locations in Salt Lake Base and Meridian

### EXPLANATORY

Land is private and owned by Richard Perkins. Mr. Perkins has agreed to allow Wintershall to haul water from his land.

A maximum of 4.00 AF will be used for each of two wells for a total of 8.0 AF.

The two wells to be drilled are as follows:

1) Horse Canyon #13-34 Federal (N. 460 ft. & W. 1880 ft. from SE Cor. Sec. 13, T38S, R23E, SLB&M; SW4SE4).

2) Horse Canyon #13-44 Federal (N. 470 ft. & W. 850 ft. from SE Cor. Sec. 13, T38S, R23E, SLB&M; SE4SE4).

*approved 11-21-86 expires 11-21-87*

Appropriate ☐

120102

DIVISION OF OIL, GAS AND MINING

SPODDING INFORMATION

API #43-037-31288

NAME OF COMPANY: WINTERSHALL CORPORATION

WELL NAME: HORSE CANYON 13-34

SECTION SW SE 13 TOWNSHIP 38S RANGE 23E COUNTY SAN JUAN

DRILLING CONTRACTOR AZTEC WELL SERVICING COMPANY

RIG # 310

SPODDED: DATE 11-25-86

TIME 8:30 PM

HOW Rotary

DRILLING WILL COMMENCE

REPORTED BY David Howell

TELEPHONE # 303-694-0988

DATE 11-26-86 SIGNED AS

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate  
(Other instructions  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	5. LEASE DESIGNATION AND SERIAL NO. <b>U-20894</b>
2. NAME OF OPERATOR <b>Wintershall Corporation (303) 694-0988</b>	6. IF INDIAN, NATURAL OR TRIBE NAME <b>N/A</b>
3. ADDRESS OF OPERATOR <b>5251 DTC Parkway, Suite 500, Englewood, Co. 80111</b>	7. UNIT AGREEMENT NAME <b>N/A</b>
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface <b>Surface: 460' FSL &amp; 1880' FEL Bottom: Same</b>	8. FARM OR LEASE NAME <b>Horse Canyon</b>
14. PERMIT NO. <b>43-037-31288</b>	9. WELL NO. <b>13-34 Federal</b>
15. ELEVATIONS (Show whether DF, RT, GR, etc.) <b>5,129' ungraded</b>	10. FIELD AND POOL, OR WILDCAT <b>Wildcat</b>
	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA <b>13-38S-23E SLBM</b>
	12. COUNTY OR PARISH <b>San Juan</b>
	13. STATE <b>Utah</b>

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS: (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work, if well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

**Will change water source as described on PAGE 11 of APD. New source is NWSE Sec. 12, T. 38 S., R. 24 E. Land is private and owner has given permission. Our use approved by Div. of Water Rights Nov. 21, 1986.**

**RECEIVED**  
DEC 01 1986

**DIVISION OF  
OIL, GAS & MINING**

18. I hereby certify that the foregoing is true and correct

SIGNED

*Brian R. Wolf*

TITLE

**Consultant**

DATE

**11-24-86**

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

**cc: BLM (3), Clausen (1), Howell (1), UDOGM (2)**

**\*See Instructions on Reverse Side**

## CEMENTING SERVICE REPORT

PG. 1 of 2

DS-496 PRINTED IN U.S.A.

D. L. SCHLUMBERGER INCORPORATED

TREATMENT NUMBER

1569-1571

DATE

12-8-86

AGE

DS

DISTRICT

CORTES, CO

WELL NAME AND NO.  
HORSE CANYON WELL NO.  
FED 13-34  
FIELD-POOL

LOCATION (LEGAL)

SEC. 13 T38S, R22E  
FORMATION

RIG NAME:

AZTEC 301

COUNTY/PARISH

SAN JUAN

STATE

UTAH

API. NO.

NAME WINTERSHALL OIL &amp; GAS CORP.

AND ONE DTC BUILDING

ADDRESS 5251 DTC PARKWAY SUITE 500

ENGLEWOOD, CO

ZIP CODE 80111

SPECIAL INSTRUCTIONS

FURNISH EQUIPMENT &  
MATERIALS TO SET 2 PLUGS, 5850'-5650'  
& 1950'-1850' AND TOP OF CASING TO SURFACE  
TO P&A, AS PER CUSTOMER'S INSTRUCTIONS

WELL DATA: BOTTOM TOP

BIT SIZE 7 1/2"	CSG/Liner Size				
TOTAL DEPTH 5850'	WEIGHT				
<input checked="" type="checkbox"/> ROT <input type="checkbox"/> CABLE	FOOTAGE				
MUD TYPE	GRADE				
<input type="checkbox"/> BHST <input type="checkbox"/> BHCT	THREAD				
MUD DENSITY	LESS FOOTAGE SHOE JOINT(S)				
MUD VISC.	Disp. Capacity				

NOTE: Include Footage From Ground Level To Head In Disp. Capacity

TYPE		TYPE	
DEPTH		DEPTH	
TYPE		TYPE	
DEPTH		DEPTH	

Head & Plugs	<input type="checkbox"/> Double	SIZE 4 1/2" X-HOLE	TYPE	
	<input type="checkbox"/> Single	<input checked="" type="checkbox"/> WEIGHT 16.60#	DEPTH	
	<input checked="" type="checkbox"/> Swage	<input type="checkbox"/> GRADE	TAIL PIPE: SIZE	DEPTH
	<input type="checkbox"/> Knockoff	<input type="checkbox"/> THREAD	TUBING VOLUME	Bbls
TOP <input type="checkbox"/> R <input type="checkbox"/> W	<input type="checkbox"/> NEW <input checked="" type="checkbox"/> USED	CASING VOL. BELOW TOOL		Bbls
BOT <input type="checkbox"/> R <input type="checkbox"/> W	DEPTH 1950'	TOTAL		Bbls
	2 <sup>ND</sup> PLUG: 1950'	ANNUAL VOLUME		Bbls

PRESSURE LIMIT 1000 PSI BUMP PLUG TO - PSI  
ROTATE - RPM RECIPROCATATE - FT No. of Centralizers -

TIME 0001 to 2400 PRESSURE TBG OR D.P. CASING VOLUME PUMPED BBL INCREMENT CUM JOB SCHEDULED FOR TIME: 0800 DATE: 12-8 ARRIVE ON LOCATION TIME: 0850 DATE: 12-8 LEFT LOCATION TIME: 0200 DATE: 12-9-86

TIME	PRESSURE	VOLUME PUMPED BBL	JOB SCHEDULED FOR TIME	ARRIVE ON LOCATION TIME	LEFT LOCATION TIME
0001 to 2400	TBG OR D.P.	CASING	INJECT RATE	FLUID TYPE	FLUID DENSITY
1530					
1543	160		10	D	4 1/2 H <sub>2</sub> O 8.34
1545	210		10	D	4 1/2 " " "
1545	210		15	D	4 1/2 CMT. 15.6
1552	40		15	D	" " "
1552	40		2.8	D	H <sub>2</sub> O 8.34
1553	30		2.8	D	" " "
1553	50		76.8	D	6 MUD
1607	370		74.8	Z	" "
1608	130		76.8	D	" "
1830					
2119	40		32	D	4 MUD
2121	120		29	G	MUD
2128	130		32	G	MUD
2128	130		10	D	6 H <sub>2</sub> O 8.34
2129	70		10	D	" " "

REMARKS

LIFT PRESSURES: PLUG #1: 6106 PSI  
PLUG #2: 2035 PSI

SYSTEM CODE	NO. OF SACKS	YIELD CU. FT/SK	COMPOSITION OF CEMENTING SYSTEMS	SLURRY MIXED BBLs	DENSITY
1.	70	1.18	D917 CL."B" + 2% SI	14.7	15.6
2.	60	1.18	D917 CL."B" NEAT	12.6	15.6
3.					
4.					
5.					
6.					

BREAKDOWN FLUID TYPE	VOLUME	DENSITY	PRESSURE	MAX. 370 MIN. 0
<input type="checkbox"/> HESITATION SQ. <input type="checkbox"/> RUNNING SQ.	CIRCULATION LOST	<input type="checkbox"/> YES <input type="checkbox"/> NO	Cement Circulated To Surf. <input type="checkbox"/> YES <input type="checkbox"/> NO	1/2 Bbls.
BREAKDOWN PSI FINAL PSI	DISPLACEMENT VOL. 79.620' 25 1/4 Bbls	TYPE OF WELL <input type="checkbox"/> OIL <input type="checkbox"/> GAS	<input type="checkbox"/> STORAGE <input type="checkbox"/> INJECTION	<input type="checkbox"/> BRINE WATER <input type="checkbox"/> WILDCAT
Washed Thru Perfs <input type="checkbox"/> YES <input type="checkbox"/> NO	TO FT MEASURED DISPLACEMENT <input type="checkbox"/> WIRELINE	DS SUPERVISOR		
PERFORMATIONS TO TO	CUSTOMER REPRESENTATIVE			
	RALPH SLOAN			

Steven H. Vesterdal

DWL-496-1 PRINTED IN U.S.A.

DATE \_\_\_\_\_

12-8-81

CUSTOMER WELL NAME AND NUMBER

LOCATION (LEGAL)

DOWELL LOCATION

TREATMENT NUMBER 159-1571

PAGE 2 OF 2 PAGES

~~NO. 3 CAMPBELL # EED 13-24 SEC 13, T38S, R22E~~

CORTER, O

\_\_\_\_\_

RECEIVED  
FEB 12 1987

IGT

DIVISION OF  
OIL, GAS & MINING

WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

INTERMOUNTAIN GEO-TECH, INC.  
P. O. BOX 158  
DELTA, CO 81416  
303-874-7762

WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

TABLE OF CONTENTS

1. SUMMARY OF DAILY ACTIVITY	1
2. BIT RECORD	2
3. DEVIATION SHEET	3
4. DST	4
5. SHOW SHEET	5

(1) COPY, FINAL MUDLOG ( 5"=100')  
(1) COPY, FINAL MUDLOG (2.5"=100')

DRILLING CONTRACTOR:	AZTEC #301 AZTEC, NEW MEXICO
DRILLING FOREMAN:	MR. RALPH SLOANE FARMINGTON, NEW MEXICO
PUSHER:	MR. JIM BROWN
GEO TECHNOLOGISTS:	MR. JUSTIN ARO - MR. DARYL ISER INTERMOUNTAIN GEO-TECH, INC. P. O. BOX 158 DELTA, CO 81416 303-874-7762
DRILLING FLUID:	MR. CARROLL HART MUSTANG DRILLING FLUIDS VERNAL, UTAH
DRILL STEM TEST:	MR. DALE GUNN HALLIBURTON FARMINGTON, NEW MEXICO
WIRE LINE LOGS:	MR. MATT LANSON SCHLUMBERGER FARMINGTON, NEW MEXICO
GEOLOGISTS:	MR. RIC KOPP - MR. JEFF VOLK WINTERSHALL OIL & GAS CORP. DENVER, CO



WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

SUMMARY OF DAILY ACTIVITY

<u>DATE</u>	<u>ACTIVITY</u>	<u>MIDNITE DEPTH</u>	<u>24 HOUR FOOTAGE</u>
11/29/86	IGT UNIT #3 ON LOCATION, RIGGED UP, W.O.C., NIPPLE UP, DRLG	1911'	463'
11/30/86	DRLG, SURV, DRLG, SURV	2374'	1064'
12/01/86	DRLG, SURV, DRLG	3438'	764'
12/02/86	DRLG, SURV, DRLG, SURV, DRLG	4202'	844'
12/03/86	DRLG, MUD UP @ 5200', TRIP @ 5235' FOR BIT #4, DRLG	5046'	376'
12/04/86	DRLG	5422'	376'
12/05/86	DRLG, CIRC OUT DRILL BREAK, STRAP OUT FOR DST #1, TRIP IN W/BIT #5	5798'	29'
12/06/86	DRLG, T.D. IN SALT, LOGGING	5827'	262'
12/07/86	LOGGING, IGT UNIT #3 RELEASED	6089'	--

WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

BIT RECORD

BIT	MAKE	SIZE	TYPE	DEPTH OUT	FOOTAGE USED	HOURS
1	HUGHES	17 $\frac{1}{4}$ "	R1	80'	80'	2 $\frac{1}{4}$
2	REED	12 $\frac{1}{4}$ "	FPJ25	1904'	1831'	28
3	REED	7 7/8"	HP-53J	5235'	3331'	86 $\frac{1}{4}$
4	HUGHES	7 7/8"	J33H	5827'	594'	34 $\frac{1}{4}$
5	SMITH	7 7/8"	F-3	6090'	263'	17

WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

DEVIATION SHEET FOR WELL. . . .

<u>DEPTH</u>	<u>DEVIATION (DEV)</u>
450'	$3/4^{\circ}$
1060'	$3/4^{\circ}$
1559'	$3/4^{\circ}$
1895"	$0^{\circ}$
2200'	$1^{\circ}$
2746'	$1\frac{1}{4}^{\circ}$
3246'	$1\frac{1}{2}^{\circ}$
3767'	$1^{\circ}$
4309'	$1^{\circ}$
4759'	$1\frac{1}{4}^{\circ}$
5230'	$1^{\circ}$

DST # 1INITIAL: 5769-5823FORMATION: Upper IsmayCOMPANY: Wintershall Oil & Gas DATE: 12/05/86WELL: Horse Canyon #13-34 Testing Co./Tester Halliburton Mr. Dale GunnHOLE SIZE 7 7/8" DRL Pipe Size \_\_\_\_\_ DRL Collar Size \_\_\_\_\_

MUD FILTRATE: \_\_\_\_\_ PPM Nitrate \_\_\_\_\_ PPM Chlorides \_\_\_\_\_

INITIAL FLOW: \_\_\_\_\_ Time \_\_\_\_\_ Pressure \_\_\_\_\_ Gas to surface \_\_\_\_\_ Min. \_\_\_\_\_

\_\_\_\_\_ Oil to surface \_\_\_\_\_ Min. \_\_\_\_\_

\_\_\_\_\_ Fluid/Mud/Wtr. \_\_\_\_\_ Min. \_\_\_\_\_

ADDITIONAL DATA: Open w/wk blow; 5 min incr to 6 "; 10 min-12" 15 min-8 oz;  
30 min-8½ oz

Final Flow: \_\_\_\_\_ Time \_\_\_\_\_ Pressure \_\_\_\_\_ Gas/Oil to surface \_\_\_\_\_ Min. \_\_\_\_\_

\_\_\_\_\_ BHT 128° F.\_\_\_\_\_ Rstv. R sample 2.14 @ 61° F\_\_\_\_\_ R mud .74 @ 71° F

Drilling mud Chl 1300 ppm recovered sample Chl 3400 ppm

ADDITIONAL DATA: open w/8 oz strong blow; immed to ngts (8 ox; 15 min-24 oz;  
60 min 2½ lbs.

## Pressure Records

Top Chart(5747)

Time

Bottom of Chart (5320)

IH \_\_\_\_\_

2778

2823

IF 30 min

13-40

67-81

ISI 60 min

1058

1080

FF 60 min

40-93

81-107

FSI 120 min

1561

1571

FH \_\_\_\_\_

2765

2796

RECOVERY: 170' fluid; v sl oc & gas cut mudSAMPLE CHAMBER RECOVERY: 100 psi, 1450 cc v sl oc & hgc mud 0.3 cut

REMARKS: \_\_\_\_\_

GEO - TECHNOLOGIST: Justin Aro

INTERMOUNTAIN GEO-TECH, INCORPORATED  
P. O. BOX 158 DELTA, CO 81416  
(303) 874-7762

COMPANY WINTERSHALL OIL & GAS CORP.

WELL NO. HORSE CANYON #13-34

LOCATION \_\_\_\_\_

ZONE OF INTEREST NO. 1

INTERVAL: From 5784' To 5828'

DRILL RATE: Abv 5 min/ft Thru 1½ - 4 min/ft Below 4 min/ft

MUD GAS-CHROMATOGRAPH DATA CO<sub>2</sub> suppressed C<sub>1</sub> completely & C<sub>2</sub> partially

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	15 U	--	.05%	--	--		
During	330 U	--	.4%	.26%	.1%		
After	20 U	--	.05%	.02%	--		

Type gas increase: Gradual ☐ Sharp ☒

Gas variation within zone: Steady ☐ Erratic ☒ Increasing ☐ Decreasing ☐

CARBIDE HOLE RATIO: GRAMS  
READING X Min. in Peak = \_\_\_\_\_ Sensitivity: Poor ☐ Fair ☐ Good ☐

FLUO: Mineral ☐ Even ☒ Spotty ☐  
None ☐ % in total sample 60%  
Poor ☐  
Fair ☒ % in show lithology 50%  
Good ☐ COLOR: BRI YEL

CUT: None ☐ Streaming  
Poor ☒ Slow ☒  
Fair ☐ Mod ☐  
Good ☐ Fast ☐  
COLOR: YEL

STAIN: None ☐ Poor ☒ Fair ☐ Good ☐ Live ☒ Dead ☐ Residue ☐ Even ☒ Spotty ☐ Lt. ☒ Dk. ☐

POROSITY: Poor ☒ Fair ☐ Good ☐ Kind Intxl & P-P Vug

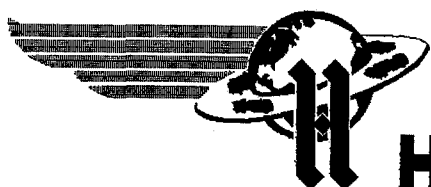
LITHOLOGY DOL-CRM MIC-VFXL SUC IP CLN P-OCC F INTXL OCC P-P VUG

SAMPLE QUALITY Good

NOTIFIED Ric Kopp (in trailer) @ 12:00 A.M. HRS. DATE: 12/5/86

REMARKS Definite oil show - formation appears tight w/ thin porosity zones,  
oil odor at shaker

ZONE DESCRIBED BY Justin Aro



# HALLIBURTON SERVICES

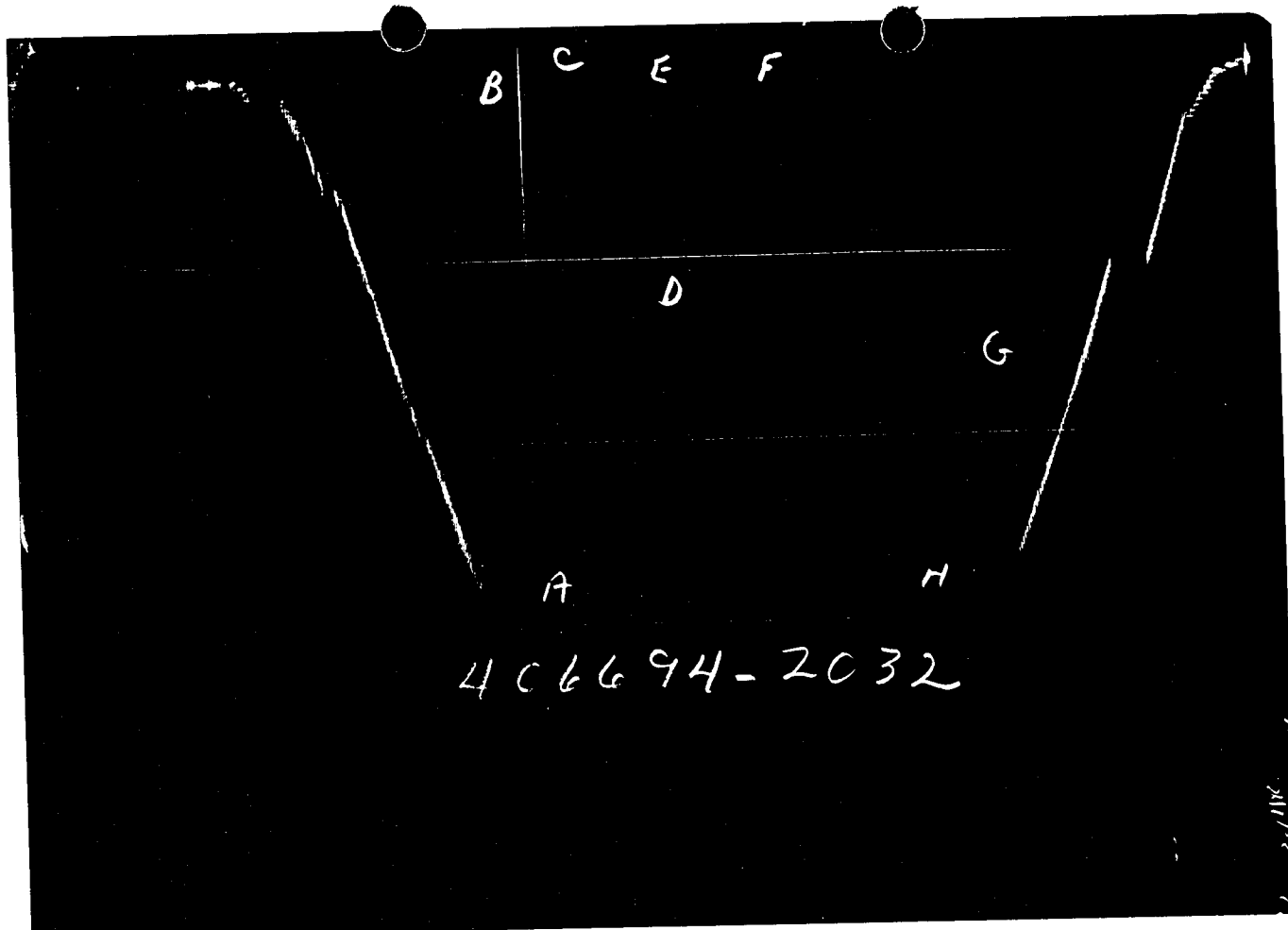
TICKET NO. 40669400

12-DEC-86

FARMINGTON

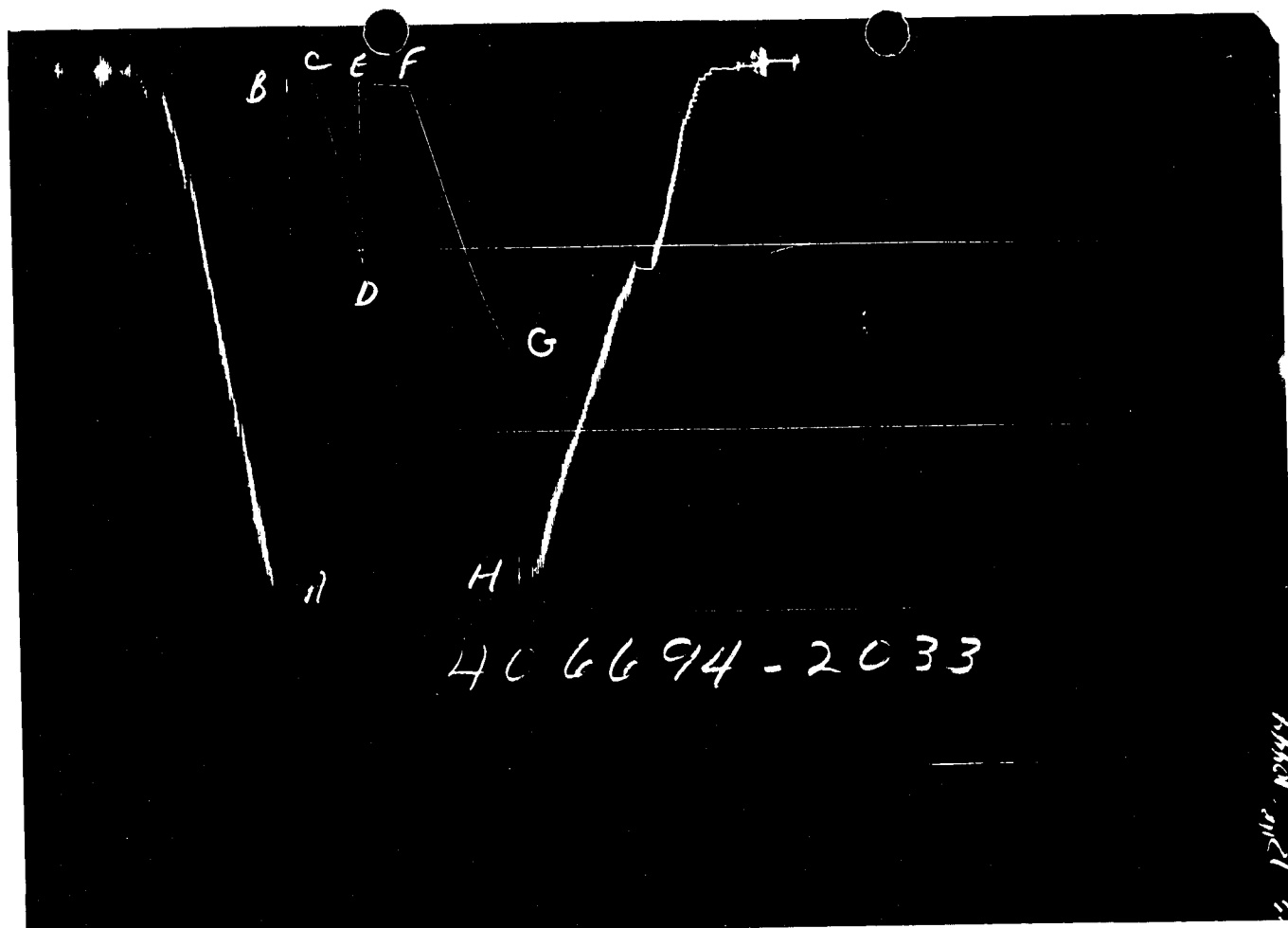
## FORMATION TESTING SERVICE REPORT

HORSE CANYON		13-34	1	5769.0 - 5823.0	WINTERSHALL OIL AND GAS CORPORATION	
LEASE NAME		WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME	
LEGAL LOCATION SEC - TWP - RANG.	13-38S-23E	FIELD AREA	WILDCAT	COUNTY	SAN JUAN	STATE UTAH OR



GAUGE NO: 2032 DEPTH: 5747.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2778	2783.5			
B	INITIAL FIRST FLOW	13	24.9			
C	FINAL FIRST FLOW	40	41.0	30.0	29.2	F
C	INITIAL FIRST CLOSED-IN	40	41.0			
D	FINAL FIRST CLOSED-IN	1058	1057.0	60.0	58.8	C
E	INITIAL SECOND FLOW	40	52.0			
F	FINAL SECOND FLOW	93	84.5	60.0	62.0	F
F	INITIAL SECOND CLOSED-IN	93	84.5			
G	FINAL SECOND CLOSED-IN	1561	1569.0	120.0	120.1	C
H	FINAL HYDROSTATIC	2765	2771.7			



GAUGE NO: 2033 DEPTH: 5820.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2823	2818.0			
B	INITIAL FIRST FLOW	67	57.8			
C	FINAL FIRST FLOW	81	67.0	30.0	29.2	F
C	INITIAL FIRST CLOSED-IN	81	67.0			
D	FINAL FIRST CLOSED-IN	1080	1074.8	60.0	58.8	C
E	INITIAL SECOND FLOW	81	79.9			
F	FINAL SECOND FLOW	107	105.8	60.0	62.0	F
F	INITIAL SECOND CLOSED-IN	107	105.8			
G	FINAL SECOND CLOSED-IN	1571	1575.1	120.0	120.1	C
H	FINAL HYDROSTATIC	2796	2804.7			



## EQUIPMENT &amp; HOLE DATA

FORMATION TESTED: UPPER ISMAY

NET PAY (ft): 17.0

GROSS TESTED FOOTAGE: 54.0

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft):

HOLE OR CASING SIZE (in): 7.875

ELEVATION (ft): 5140.0

TOTAL DEPTH (ft): 5823.0

PACKER DEPTH(S) (ft): 5763, 5769

FINAL SURFACE CHOKE (in):

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.00

MUD VISCOSITY (sec): 40

ESTIMATED HOLE TEMP. (°F):

ACTUAL HOLE TEMP. (°F): 128 @ 5819.0 ft

TICKET NUMBER: 40669400

DATE: 12-5-86 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP:  
FARMINGTON

TESTER: D. GUNN

WITNESS:

DRILLING CONTRACTOR:

AZTEC #301

FLUID PROPERTIES FOR  
RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
MUD PIT	0.740 @ 71 °F	4900 ppm
SAMPLER	2.140 @ 51 °F	2060 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

## SAMPLER DATA

P<sub>sig</sub> AT SURFACE: 100.0

cu.ft. OF GAS: 0.300

cc OF OIL:

cc OF WATER:

cc OF MUD: 1450.0

TOTAL LIQUID cc: 1450.0

## HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F

GAS/OIL RATIO (cu.ft. per bbl):

GAS GRAVITY:

## CUSHION DATA

TYPE AMOUNT WEIGHT

## RECOVERED:

170' OF VERY SLIGHTLY OIL AND GAS CUT MUD

MEASURED FROM  
TESTER VALVE

## REMARKS:



TICKET NO: 40669400

CLOCK NO: 10444 HOUR: 12



GAUGE NO: 2032

DEPTH: 5747.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	24.9			
2	5.0	30.9	6.0		
3	10.0	32.4	1.5		
4	15.0	35.3	2.9		
5	20.0	37.8	2.5		
6	25.0	39.4	1.6		
C 7	29.2	41.0	1.6		
FIRST CLOSED-IN					
C 1	0.0	41.0			
2	10.0	150.0	109.0	7.4	0.594
3	20.0	287.4	246.4	11.9	0.391
4	30.0	462.4	421.4	14.8	0.295
5	40.0	658.5	617.5	16.9	0.238
6	50.0	863.5	822.5	18.4	0.200
D 7	58.8	1057.0	1016.0	19.5	0.175
SECOND FLOW					
E 1	0.0	52.0			
2	10.0	67.0	15.0		
3	20.0	71.7	4.6		
4	30.0	75.0	3.3		
5	40.0	77.5	2.5		
6	50.0	80.4	2.9		
7	60.0	83.9	3.4		
F 8	62.0	84.5	0.7		
SECOND CLOSED-IN					
F 1	0.0	84.5			
2	10.0	220.6	136.1	9.0	1.007
3	20.0	357.5	273.0	16.4	0.745
4	30.0	499.5	414.9	22.5	0.607
5	40.0	642.6	558.1	27.8	0.516
6	50.0	780.4	695.9	32.3	0.451
7	60.0	921.7	837.2	36.2	0.401
8	70.0	1052.9	968.3	39.6	0.362
9	80.0	1177.9	1093.4	42.6	0.330
10	90.0	1292.7	1208.2	45.3	0.304
11	100.0	1398.7	1314.1	47.7	0.281
12	110.0	1489.7	1405.2	49.8	0.262
G 13	120.1	1569.0	1484.5	51.8	0.245

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$

REMARKS:

TICKET NO: 40669400

CLOCK NO: 7276 HOUR: 24



GAUGE NO: 2033















DEPTH: 5820.0

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	57.8			
2	5.0	57.0	-0.8		
3	10.0	58.5	1.5		
4	15.0	61.2	2.7		
5	20.0	63.2	2.0		
6	25.0	65.2	2.0		
C 7	29.2	67.0	1.7		
FIRST CLOSED-IN					
C 1	0.0	67.0			
2	10.0	175.8	108.8	7.5	0.592
3	20.0	313.9	247.0	11.9	0.391
4	30.0	485.0	418.0	14.8	0.295
5	40.0	686.0	619.0	16.9	0.238
6	50.0	897.8	830.9	18.4	0.200
D 7	58.8	1074.8	1007.8	19.5	0.175
SECOND FLOW					
E 1	0.0	79.9			
2	10.0	90.5	10.6		
3	20.0	94.8	4.3		
4	30.0	97.9	3.1		
5	40.0	100.9	3.1		
6	50.0	103.4	2.4		
7	60.0	105.9	2.5		
F 8	62.0	105.8	-0.1		
SECOND CLOSED-IN					
F 1	0.0	105.8			
2	10.0	241.5	135.7	9.0	1.004
3	20.0	380.1	274.3	16.4	0.744
4	30.0	522.1	416.3	22.6	0.606
5	40.0	668.0	562.3	27.8	0.515
6	50.0	808.3	702.5	32.3	0.451
7	60.0	944.0	838.2	36.2	0.401
8	70.0	1073.8	968.1	39.6	0.362
9	80.0	1196.9	1091.2	42.6	0.330
10	90.0	1310.7	1205.0	45.3	0.304
11	100.0	1409.6	1303.8	47.7	0.281
12	110.0	1498.7	1392.9	49.8	0.262
G 13	120.1	1575.1	1469.3	51.8	0.245

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$

REMARKS:

TICKET NO. 40669400

		O.D.	I.D.	LENGTH	DEPTH
1					
	DRILL PIPE.....	4.500	3.826	5119.0	
3					
	DRILL COLLARS.....	6.250	2.250	554.0	
50					
	IMPACT REVERSING SUB.....	5.750	2.750	1.0	5673.0
3					
	DRILL COLLARS.....	6.250	2.250	60.0	
5					
	CROSSOVER.....	5.750	2.500	1.0	
13					
	DUAL CIP SAMPLER.....	5.750	0.870	7.0	
60					
	HYDROSPRING TESTER.....	5.000	0.750	5.0	5746.0
80					
	AP RUNNING CASE.....	5.000	2.250	4.0	5747.0
15					
	JAR.....	5.030	1.750	5.0	
16					
	VR SAFETY JOINT.....	5.000	1.000	3.0	
70					
	OPEN HOLE PACKER.....	6.750	1.530	6.0	5763.0
70					
	OPEN HOLE PACKER.....	6.750	1.530	6.0	5769.0
20					
	FLUSH JOINT ANCHDR.....	5.750	3.000	48.0	
81					
	BLANKED-OFF RUNNING CASE.....	5.750		4.0	5820.0
TOTAL DEPTH					5823.0

EQUIPMENT DATA

COMPANY: Wintershall Corp. UT ACCOUNT # 19555 SUSPENSE DATE: \_\_\_\_\_

TELEPHONE CONTACT DOCUMENTATION

CONTACT NAME: Doblie Schmidt Nick

CONTACT TELEPHONE NO.: 1-303-694-0988

SUBJECT: Norse Cyn Fed 13-34

4303731288 Well not on conf list but  
385 23E 13 logs received as sight hole

(Use attachments if necessary)

RESULTS: Nick said the well should be confidential  
I told him some of the info would already have  
been released. He said OK but to please hold  
copy from now on.

(Use attachments if necessary)

CONTACTED BY: VC

DATE: 2-13-87

IGT

RECEIVED  
FEB 17 1987

DIVISION OF  
OIL, GAS & MINING

WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

INTERMOUNTAIN GEO-TECH, INC.  
P. O. BOX 158  
DELTA, CO 81416  
303-874-7762

WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

TABLE OF CONTENTS

1. SUMMARY OF DAILY ACTIVITY	1
2. BIT RECORD	2
3. DEVIATION SHEET	3
4. DST	4
5. SHOW SHEET	5

(1) COPY, FINAL MUDLOG ( 5"=100')  
(1) COPY, FINAL MUDLOG (2.5"=100')

DRILLING CONTRACTOR: AZTEC #301  
AZTEC, NEW MEXICO

DRILLING FOREMAN: MR. RALPH SLOANE  
FARMINGTON, NEW MEXICO

PUSHER: MR. JIM BROWN

GEO TECHNOLOGISTS: MR. JUSTIN ARO - MR. DARYL ISER  
INTERMOUNTAIN GEO-TECH, INC.  
P. O. BOX 158  
DELTA, CO 81416  
303-874-7762

DRILLING FLUID: MR. CARROLL HART  
MUSTANG DRILLING FLUIDS  
VERNAL, UTAH

DRILL STEM TEST: MR. DALE GUNN  
HALLIBURTON  
FARMINGTON, NEW MEXICO

WIRE LINE LOGS: MR. MATT LANSON  
SCHLUMBERGER  
FARMINGTON, NEW MEXICO

GEOLOGISTS: MR. RIC KOPP - MR. JEFF VOLK  
WINTERSHALL OIL & GAS CORP.  
DENVER, CO



WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

SUMMARY OF DAILY ACTIVITY

DATE	ACTIVITY	MIDNITE DEPTH	24 HOUR FOOTAGE
11/29/86	IGT UNIT #3 ON LOCATION, RIGGED UP, W.O.C., NIPPLE UP, DRLG	1911'	463'
11/30/86	DRLG, SURV, DRLG, SURV	2374'	1064'
12/01/86	DRLG, SURV, DRLG	3438'	764'
12/02/86	DRLG, SURV, DRLG, SURV, DRLG	4202'	844'
12/03/86	DRLG, MUD UP @ 5200', TRIP @ 5235' FOR BIT #4, DRLG	5046'	376'
12/04/86	DRLG	5422'	376'
12/05/86	DRLG, CIRC OUT DRILL BREAK, STRAP OUT FOR DST #1, TRIP IN W/BIT #5	5798'	29'
12/06/86	DRLG, T.D. IN SALT, LOGGING	5827'	262'
12/07/86	LOGGING, IGT UNIT #3 RELEASED	6089'	--

WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

BIT RECORD

<u>BIT</u>	<u>MAKE</u>	<u>SIZE</u>	<u>TYPE</u>	<u>DEPTH OUT</u>	<u>FOOTAGE USED</u>	<u>HOURS</u>
1	HUGHES	17 $\frac{1}{4}$ "	R1	80'	80'	2 $\frac{1}{4}$
2	REED	12 $\frac{1}{4}$ "	FPJ25	1904'	1831'	28
3	REED	7 7/8"	HP-53J	5235'	3331'	86 $\frac{1}{4}$
4	HUGHES	7 7/8"	J33H	5827'	594'	34 $\frac{1}{4}$
5	SMITH	7 7/8"	F-3	6090'	263'	17

WINTERSHALL OIL & GAS CORP.  
HORSE CANYON FEDERAL #13-34  
SEC. 13, T38S-R23E  
SAN JUAN COUNTY, UTAH

DEVIATION SHEET FOR WELL. . . .

<u>DEPTH</u>	<u>DEVIATION (DEV)</u>
450'	$3/4^{\circ}$
1060'	$3/4^{\circ}$
1559'	$3/4^{\circ}$
1895"	$0^{\circ}$
2200'	$1^{\circ}$
2746'	$1\frac{1}{4}^{\circ}$
3246'	$1\frac{1}{2}^{\circ}$
3767'	$1^{\circ}$
4309'	$1^{\circ}$
4759'	$1\frac{1}{4}^{\circ}$
5230'	$1^{\circ}$

DST # 1INTERVAL: 5769-5823FORMATION: Upper IsmayCOMPANY: Wintershall Oil & Gas DATE: 12/05/86WELL: Horse Canyon #13-34Testing Co./Tester Halliburton Mr. Dale GunnHOLE SIZE 7 7/8"

DRL Pipe Size \_\_\_\_\_

DRL Collar Size \_\_\_\_\_

MUD FILTRATE: \_\_\_\_\_

PPM Nitrate \_\_\_\_\_

PPM Chlorides \_\_\_\_\_

INITIAL FLOW:

Time \_\_\_\_\_

Pressure \_\_\_\_\_

Gas to surface \_\_\_\_\_ Min. \_\_\_\_\_

Oil to surface \_\_\_\_\_ Min. \_\_\_\_\_

Fluid/Mud/Wtr. \_\_\_\_\_ Min. \_\_\_\_\_

ADDITIONAL DATA: Open w/wk blow; 5 min incr to 6 "; 10 min-12" 15 min-8 oz;  
30 min-8½ oz

Final Flow:

Time \_\_\_\_\_

Pressure \_\_\_\_\_

Gas/Oil to surface \_\_\_\_\_ Min. \_\_\_\_\_

BHT 128° F.Rstv. R sample 2.14 @ 61° FR mud .74 @ 71° F

Drilling mud Chl 1300 ppm recovered sample Chl 3400 ppm

ADDITIONAL DATA: open w/8 oz strong blow; immed to ngts (8 ox; 15 min-24 oz;  
60 min 2½ lbs.

## Pressure Records

Top Chart(5747)

Time

Bottom of Chart (5820)

IH \_\_\_\_\_

2778

2823

IF 30 min

13-40

67-81

ISI 60 min

1058

1080

FF 60 min

40-93

81-107

FSI 120 min

1561

1571

FH \_\_\_\_\_

2765

2796

RECOVERY: 170' fluid; v sl oc & gas cut mudSAMPLE CHAMBER RECOVERY: 100 psi, 1450 cc v sl oc & hgc mud 0.3 cut

REMARKS: \_\_\_\_\_

GEO - TECHNOLOGIST: Justin Aro

INTERMOUNTAIN GEO-TECH, INCORPORATED  
P. O. BOX 158 DELTA, CO 81416  
(303) 874-7762

COMPANY WINTERSHALL OIL & GAS CORP.

WELL NO. HORSE CANYON #13-34

LOCATION \_\_\_\_\_

ZONE OF INTEREST NO. 1

INTERVAL: From 5784' To 5828'

DRILL RATE: Abv 5 min/ft Thru 1 1/2 - 4 min/ft Below 4 min/ft

MUD GAS-CHROMATOGRAPH DATA CO<sub>2</sub> suppressed C<sub>1</sub> completely & C<sub>2</sub> partially

	TOTAL	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	OTHER
Before	15 U	--	.05%	--	--		
During	330 U	--	.4%	.26%	.1%		
After	20 U	--	.05%	.02%	--		

Type gas increase: Gradual ☐ Sharp ☒

Gas variation within zone: Steady ☐ Erratic ☒ Increasing ☐ Decreasing ☐

CARBIDE HOLE RATIO: GRAMS  
READING X Min. in Peak = \_\_\_\_\_

Sensitivity: Poor ☐ Fair ☐ Good ☐

FLUO: Mineral ☐ Even ☒ Spotty ☐  
None ☐ % in total sample 60%  
Poor ☐  
Fair ☒ % in show lithology 50%  
Good ☐ COLOR: BRI YEL

CUT: None ☐ Streaming  
Poor ☒ Slow ☒  
Fair ☐ Mod ☐  
Good ☐ Fast ☐

COLOR: YEL

Occ Fair

STAIN: None ☐ Poor ☒ Fair ☐ Good ☐ Live ☒ Dead ☐ Residue ☐ Even ☒ Spotty ☐ Lt. ☒ Dk. ☐

POROSITY: Poor ☒ Fair ☐ Good ☐ Kind Intxl & P-P Vug

LITHOLOGY DOL-CRM MIC-VFXL SUC IP CLN P-OCC F INTXL OCC P-P VUG

SAMPLE QUALITY Good

NOTIFIED Ric Kopp (in trailer) @ 12:00 A.M. HRS. DATE: 12/5/86

REMARKS Definite oil show - formation appears tight w/thin porosity zones,  
oil odor at shaker

ZONE DESCRIBED BY Justin Aro

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE  
(Other instructions on reverse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> Drilling	5. LEASE DESIGNATION AND SERIAL NO. U-20894
2. NAME OF OPERATOR Wintershall Corporation	6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR 5251 DTC Parkway, Suite 500, Englewood, CO 80111	7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 470' SFL & 850' FEL (SESE)	8. FARM OR LEASE NAME Horse Canyon
14. PERMIT NO. 43 037-31288	9. WELL NO. 13-34 FEDERAL
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5112'	10. FIELD AND POOL, OR WILDCAT Wildcat
	11. SEC., T., R., M., OR BLK. AND SUBSECT. OR AREA 13-38S-23E SLBM
	12. COUNTY OR PARISH San Juan
	13. STATE Utah

15. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Spudded well 11/24/86. Set 9-5/8" csg @ 1898'.

Present TD @ 5829'

12/5/86 POH to run DST #1.

RECEIVED  
JUN 13 1988

DIVISION OF  
OIL, GAS & MINING

OIL AND GAS	
DRN	RJF
JRB	GLH
DTS	SLS
TAS	
MICROFILM	
FILE	

18. I hereby certify that the foregoing is true and correct.

SIGNED <u>D. P. Hewell</u>	TITLE <u>Operations Manager</u>	DATE <u>12/5/86</u>
(This space for Federal or State office use)		
APPROVED BY <u>NOTED</u>	TITLE <u>BRANCH OF FLUID MINERALS</u>	DATE <u>DEC 15 1986</u>
CONDITIONS OF APPROVAL, IF ANY: MOAB DISTRICT		

\*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate  
(Other instructions on reverse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER	5. LEASE DESIGNATION AND SERIAL NO. U-20894
2. NAME OF OPERATOR Wintershall Corporation	6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR 5251 DTC Parkway, Suite 500, Englewood, CO 80111	7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 470' FSL & 850' FEL (SESE)	8. FARM OR LEASE NAME HORSE CANYON
14. PERMIT NO. 43-037-31288	9. WELL NO. 13-34 FEDERAL
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5112'	10. FIELD AND POOL, OR WILDCAT WILDCAT
	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 13-38S-23E SLBM
	12. COUNTY OR PARISH San Juan
	13. STATE Utah

18. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	MULTIPLE COMPLETE	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	ABANDON*	<input checked="" type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>
(Other)			

SUBSEQUENT REPORT OF:

WATER SHUT-OFF	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
FRACTURE TREATMENT	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
SHOOTING OR ACIDIZING	<input type="checkbox"/>	ABANDONMENT*	<input type="checkbox"/>
(Other)			

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

TD well @ 6086' 12/7/86

No commercial hydrocarbons

Verbal permission to P&A: 12/7/86 per Mike Wade BLM Moab, UT.

Plug #1 5850'-5700' 70 SXS  
Plug #2 1950'-1850' 50 SXS  
Plug #3 15' to surface 10 SXS

RECEIVED  
JUN 13 1988

DIVISION OF  
OIL, GAS & MINING

OIL AND GAS	
DRN	RJF
JRB	GLH
DTS	SLS
1- TAS	
2- MICROFILM	
3- FILE	

18. I hereby certify that the foregoing is true and correct

SIGNED Dan J. Halpern

TITLE Operations Manager

DATE 12/8/86

(This space for Federal or State office use)

APPROVED BY Dene Pedrine

TITLE District Manager

DATE 12/15/86

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

OPERATOR

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN THE MANNER  
(Other instructions on re-  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER	5. LEASE DESIGNATION AND SERIAL NO. U-20894
2. NAME OF OPERATOR Wintershall Corporation	6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR 5251 DTC Parkway, Suite 500, Englewood, CO 80111	7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 470' FSL & 850' FEL (SESE)	8. FARM OR LEASE NAME HORSE CANYON
14. PERMIT NO. 43-037-31288	9. WELL NO. 13-34 FEDERAL
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5112'	10. FIELD AND POOL, OR WILDCAT WILDCAT
	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 13-38S-23E SLBM
	12. COUNTY OR PARISH San Juan
	13. STATE Utah

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐  
FRACTURE TREAT ☐  
SHOOT OR ACIDIZE ☐  
REPAIR WELL ☐  
(Other) ☐

PULL OR ALTER CASING ☐  
MULTIPLE COMPLETE ☐  
ABANDON\* ☐  
CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐  
FRACTURE TREATMENT ☐  
SHOOTING OR ACIDIZING ☐  
(Other) ☐

REPAIRING WELL ☐  
ALTERING CASING ☐  
ABANDONMENT\* ☒

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

Well P&A'd 12/9/86

Plugged w/ 70 sxs 5850'-5700', 50 sxs 1950'-1850' and 10 sxs 15' to surface.

RECEIVED  
JUN 13 1988

DIVISION OF  
OIL, GAS & MINING

OIL AND GAS	
DRN	RJF
JRB	GLH
DTS	SLS
1- TAS	
2- MICROFILM	
3- FILE	

18. I hereby certify that the foregoing is true and correct.

SIGNED Paul P. Hawley

TITLE Operations Manager

DATE 12/9/86

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

\*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



# DOWELL SCHLUMBERGER INCORPORATED

OILFIELD SERVICES  
MINING SERVICES  
INDUSTRIAL SERVICES

DSI SERVICE ORDER, RECEIPT, AND INVOICE NO. <b>1569-1571</b>	CORRESPONDENCE: P.O. BOX 4378 HOUSTON, TEXAS 77210	REMITTANCE: P.O. BOX 100344 HOUSTON, TEXAS 77212	DSI SERVICE LOCATION NAME AND NUMBER <b>CORTIZ CO</b>
CUSTOMER NUMBER <b>921031</b>	CUSTOMER JOB NUMBER <b>15-69</b>	TYPE SERVICE CODE <b>295</b>	BUSINESS CODES

CUSTOMER'S NAME: **WINTERSHALL OIL & GAS CORP.**  
ADDRESS: **DUE OTC BUILDING**  
**5251 OTC PARKWAY SUITE 500**  
CITY, STATE AND ZIP CODE: **ENGLEWOOD, CO 80111**  
DIVISION OF: **OIL, GAS & MINING**

WORKOVER ☐ W  
NEW WELL ☐ N  
OTHER ☐ O  
API OR IC NUMBER

DSI shall furnish and Customer shall purchase materials and services required in the performance of the following SERVICE INSTRUCTIONS or DSI INDUSTRIAL SERVICE CONTRACT NO.

**FURNISH EQUIPMENT & MATERIALS TO SET 2 PLUGS 5850'-5950' & 1950'-1850', AND TOP OF CASING TO SURFACE TO P&A, AS PER CUSTOMER'S INSTRUCTIONS.**

IMPORTANT  
SEE OTHER SIDE FOR TERMS & CONDITIONS  
ARRIVE LOCATION MO. DAY YR. TIME  
**12 8 86 0850**

SERVICE ORDER I authorize work to begin per service instructions in accordance with terms and conditions printed on the reverse side of this form and represent that I have authority to accept and sign this order.

CUSTOMER AUTHORIZED AGENT

JOB COMPLETION MO. DAY YR. TIME  
**12 9 86 0100**

SERVICE RECEIPT I certify that the materials and services listed were received and all services performed in a workmanlike manner.

CUSTOMER AUTHORIZED AGENT

STATE: **UTAH** CODE: **43** COUNTY / PARISH: **SAN JUAN** CODE: **037** CITY: **ALBUQUERQUE**  
WELL NAME AND NUMBER / JOB SITE: **HORSE CANYON WELL NO. FFD 13-34** LOCATION AND POOL / PLANT ADDRESS: **SEC 13 T38S R22E**

SHIPPED VIA: **DOWELL SCHLUMBERGER**

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
D59200 - DD1	MILEAGE ON 1 UNIT @ 65 MILES	MILE	65	2.20	143.00
D48258 - DD0	EQUIPMENT DEPTH CHARGE 5000' - 6999'	EA	1	1,770.00	1,770.00
D48258 - DD1	ADDITIONAL FT. BELOW 5000' @ 850'	FT.	850	0.20	170.00
100825 - 122	D917, HIGH EARLY CEMENT	SK	130	7.20	936.00
D67005 - 100	SI, CALCIUM CHLORIDE	LB	132	0.30	39.60
D49102 - DD0	TRANSPORTATION - DELIVERY CHARGE 6.18 TONS @ 65 MILES	T-M	402	0.75	301.50
D49100 - DD0	SERVICE CHARGE	CHARGE	133	0.95	126.35
D48D18 - DD0	ADDITIONAL HRS ON PUMP TRUCK (4 HRS.)	EA	1	600.00	600.00
DD006 - DD1	CONFIRM TO BID - EQUIPMENT	%	1		< 1,368.77
DD006 - DD2	CONFIRM TO BID - MATERIALS	%	1		< 429.26

THANK YOU FOR USING

DOWELL SCHLUMBERGER

BOOK PRICE: \$4,086.45 DISCOUNTED PRICE: \$2,288.42

LICENSE/REIMBURSEMENT FEE	LICENSE/REIMBURSEMENT FEE	STATE	% TAX ON \$
REMARKS: <b>Good Job - Thank</b>		COUNTY	% TAX ON \$
<b>NO CHARGE FOR 4 ADDITIONAL HOURS ON PUMP TRUCK</b>		CITY	% TAX ON \$
		DSI REPRESENTATIVE	TOTAL \$

*Steven H. Vestal*

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

15

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

**OIL AND GAS**  
80894  
INDIAN ALLOTTEE OR TRIBE NAME  
N/A  
7. LEASE AGREEMENT NAME  
N/A  
8. LAND OR LEASE NAME  
SL Horse Canyon  
9. WELL NO.  
13-34 Federal  
10. FIELD AND POOL, OR WILDCAT  
Wildcat  
11. SECTION, T. R. M., OR BLOCK AND SURVEY  
OR AREA  
13-38S-23E SLBM  
MICROFILM  
FILE

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other \_\_\_\_\_  
1b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RENVR. ☐ Other P&A  
2. NAME OF OPERATOR  
WINTERSHALL CORPORATION  
3. ADDRESS OF OPERATOR  
5251 DTC Parkway, Suite 500, Englewood, CO 80111  
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface 460' FSL & 1880' FEL (SWSE)  
At top prod. interval reported below  
At total depth  
14. PERMIT NO. 43-037-31288 DATE ISSUED 11/24/86  
12. COUNTY OR PARISH San Juan 13. STATE Utah  
15. DATE SPUDDED 11/25/86 16. DATE T.D. REACHED 12/7/86 17. DATE COMPL. (Ready to prod.) P&A 12/9/86  
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\* 5129' GR 19. ELEV. CASINGHEAD ---  
20. TOTAL DEPTH, MD & TVD 6086' MD 21. PLUG, BACK T.D., MD & TVD --- 22. IF MULTIPLE COMPL., HOW MANY\* None  
23. INTERVALS DRILLED BY ROTARY TOOLS Yes CABLE TOOLS No  
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\* None  
25. WAS DIRECTIONAL SURVEY MADE No  
26. TYPE ELECTRIC AND OTHER LOGS RUN BHC-Sonic; DLL/MSFL; LDT/CNL; ML mul  
27. WAS WELL CORED No

CASING RECORD (Report all strings set in well)						CEMENTING RECORD		AMOUNT PULLED	
CASINO SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE						
13-3/8"	61#	80'	17-1/2"			251 SXS		None	
9-5/8"	36#	1898'	12-1/4"			930 SXS		None	

**OIL AND GAS**  
28. DRN SIZE RJP OP MD)  
JRB GLH  
31. PERFORATION RECORD (Interval, size and land number)  
1- TAS  
3- ASJ  
23. MICROFILM  
DATE FIRST PRODUCTION  
4- FILE

29. LINER RECORD  
BOTTOM (MD) None  
SACKS CEMENT\*  
SCREEN (MD)  
30. TUBING RECORD  
SIZE DEPTH SET (MD) PACKER SET (MD)  
None  
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.  
DEPTH INTERVAL (MD) None  
AMOUNT AND KIND OF MATERIAL USED None

**CONFIDENTIAL  
PERIOD  
EXPIRED  
ON 10-14-88**

**RECEIVED**  
JUN 13 1988

PRODUCTION  
PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)  
TESTED CHOKES SIZE PROD'N. FOR TEST PERIOD  
FLOW. TUBING PRESS. CASING PRESSURE CALCULATED 24-HOUR RATE OIL—BBL. WATER—BBL. GAS—BBL. WATER—BBL. OIL GRAVITY-API (CORR.)  
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)  
DIVISION OF OIL, GAS & MINING  
WELL STATUS (Producing or shut-in) P&A'd  
TEST WITNESSED BY

35. LIST OF ATTACHMENTS  
Dowell Schlumberger's plugging record. Log's DST's reports sent directly by  
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records Service Compa  
SIGNED Daniel P. Howell TITLE Operations Manager DATE 12/18/86

\*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
DST #1, Upper	Ismay from 5769'-5823'			Chinle	1836'	
(The above test descriptions sent in by Service Companies)				DeChelly	2900'	
				Cutler	2980'	
				Hermosa	4468'	
				Upper Ismay	5718'	
				Lower Ismay	5860'	
				Desert Creek	5960'	
				Akah	6051'	
				Paradox Salt	6086'	

38. GEOLOGIC MARKERS

RECEIVED  
JUN 13 1988

DIVISION OF  
OIL, GAS & MINING